

### REGION VIII DATA VALIDATION REPORT INORGANIC

Case No. / TDD No.	Site N	ame	Operable Unit
35810 / 0611-06	Lower Silver Cr	eek	
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ChemTech Consulting Group	EPW06047	MH1W35	

Review Assigned Date	November 16, 2006	Data Validator	Lisa Tyson
Review Completion Date_		Report Reviewer_	_

Sample ID	Matrix	Analysis
MH1W35	Water	CLP - Dissolved Metals
MH1W36		
MH1W37		
MH1W38		
MH1W39		
MH1W40		
MH1W41		
MH1W42		
MH1W43		
MH1W44		
MH1W45		
MH1W46		
MH1W47		
MH1W48		

Sample ID	Matrix	Analysis
MH1W49	Water	CLP – Dissolved Metals
MH1W50		
MH1W51		·
MH1W52		
MH1W53		
MH1W54		

## DATA QUALITY STATEMENT

()	Data are ACCEPTABLE according to EPA Functional guideline by the reviewer.	es with no qualifiers (flags) added
() (X)	Data are UNACCEPTABLE according to EPA Functional Guide Data are acceptable with QUALIFICATIONS noted in review.	elines.
Telepho	one/Communication Logs Enclosed? Yes	NoX
CLP Prattentio	roject Officer Attention Required? Yes No X no.	_ If yes, list the items that require

#### INORGANIC DATA VALIDATION REPORT

#### **REVIEW NARRATIVE SUMMARY**

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in <u>each</u> of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 35810, SDG No. MH1W35, consisted of 20 water samples for CLP dissolved metals by ICP-AES (ILM05.3). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH1W35, MH1W36, MH1W49, MH1W50, MH1W51, MH1W52, MH1W53, MH1W54	Beryllium	U	Laboratory blank contamination	7
MH1W46, MH1W49, MH1W50, MH1W53, MH1W54	Selenium			
MH1W51	Zinc			
All samples except MH1W51	Barium	İ		
MH1W37, MH1W38, MH1W39, MH1W40, MH1W41, MH1W42, MH1W43, MH1W44, MH1W47, MH1W48, MH1W52, MH1W53, MH1W54	Potassium			
MH1W36, MH1W38, MH1W42, MH1W52	Silver			
MH1W37, MH1W38, MH1W39, MH1W40, MH1W41, MH1W42, MH1W43, MH1W44, MH1W45, MH1W46, MH1W47, MH1W48, MH1W49, MH1W50, MH1W51, MH1W52, MH1W53, MH1W54	Aluminum			
MH1W35, MH1W36, MH1W37, MH1W38, MH1W39, MH1W40, MH1W41, MH1W42, MH1W43, MH1W44, MH1W45	Antimony			
MH1W35	Thallium			



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Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH1W35, MH1W46, MH1W47, MH1W48, MH1W49, MH1W50, MH1W51, MH1W52, MH1W53, MH1W54	Copper	U	Laboratory blank contamination	7
MH1W48, MH1W49, MH1W50, MH1W51, MH1W52, MH1W53, MH1W54	Arsenic			
MH1W38, MH1W40	Iron			}
MH1W37, MH1W38, MH1W39, MH1W41, MH1W42, MH1W46, MH1W47, MH1W48, MH1W49, MH1W52, MH1W53, MH1W54	Lead	J-	Negative blank contamination	
MH1W42, MH1W47, MH1W51	Vanadium			
MH1W36, MH1W44, MH1W51	Antimony* Selenium Thallium	J-/UJ	Interference check exceeded criteria, negative interference	8
MH1W36, MH1W51	Beryllium*	J+	Interference check exceeded criteria, positive interference	
MH1W51	Cadmium		<b>, , , , , , , , , , , , , , , , , , , </b>	
MH1W36	Silver*	]		
All samples	Calcium Magnesium Manganese Potassium Sodium Zinc	J/UJ	Serial dilution %D greater than 10% and original sample value at least 50*IDL	14

<sup>\*</sup> The results for antimony in samples MH1W36 and MH1W44; beryllium in samples MH1W36 and MH1W51; and silver in sample MH1W36 were not assigned bias because the results were qualified as non-detected for blank contamination.

	Operating Corvi	bata validation report			
1.	DELIVERA	DELIVERABLES			
	All deliverab	les were present as specified in the Statement of Work.			
	Yes_X_	No			
	Comments:	None.			
2.	HOLDING T	TIMES AND PRESERVATION CRITERIA			
	All technical	holding times and preservation criteria were met.			
	Yes_X_	No			
	Comments:	The samples were analyzed within holding times and were received within the recommended temperature range of $4 \pm 2$ °C. Chain-of-custody (COC), summary forms, and raw data were evaluated.			
		The sampler used the same ID for both total and dissolved metals. In accordance with previous direction from EPA Region 8, the sample IDs listed on the COC were assigned to the total metals samples and the SMO Coordinator assigned new IDs for the dissolved metals samples (i.e., the original sample number on the COC was MH1PR5 and the new dissolved sample ID was assigned as MH1W35).			
3.	INSTRUME	NT CALIBRATIONS: STANDARDS AND BLANKS			
	Initial instrum	nent calibrations were performed according to SOW requirements.			
	Yes_X_	No			
	Comments:	None.			
	The instrumer	its were calibrated daily and each time an analysis run was performed.			
	Yes_X_	No			
	Comments:	None.			

The instruments were calibrated using one blank and the appropriate number of standards.

No\_\_\_\_

None.

Yes\_X\_

Comments:

5.

6.

4.	FORM 1 - SA	AMPLE ANALYSIS RESULTS
	Sample analy	ses were entered correctly on Form Is.
	Yes_X_	No
	Comments:	None.
5.	FORM 2A - 1	INITIAL AND CONTINUING CALIBRATION VERIFICATION
	The initial and SOW requires	d continuing calibration verification standards (ICV and CCV, respectively) met ments.
	Yes_X_	No
	Comments:	None.
		n verification results were within 90-110% recovery for metals, 85-115% for 80-120% for mercury.
	Yes_X_	No
	Comments:	None.
	The continuin	g calibration standards were run at 10% frequency or every two hours.
	Yes_X_	No
	Comments:	None.
6.	FORM 2B - 0	CRQL CHECK STANDARD
	run and every	Standards (CRI) were analyzed at the beginning and end of each sample analysis 20 analytical samples, immediately preceding the interferences check sample not before ICV analysis.
	Yes_X_	No
	Comments:	None.

Inorganic - 7 MH1W35m

7.

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The CRI recov	veries were within 70-130% (50-150% for Sb, Pb, and Tl) for required elements.
Yes_X_	No
Comments:	None.
FORM 3 - BI	LANKS
The initial and requirements.	continuing calibration blanks (ICB and CCB, respectively) met SOW
Yes_X_	No
Comments:	None.
The continuing	g calibration blanks were run at 10% frequency.
Yes_X_	No
Comments:	Continuing calibration blanks were run every 10 samples.
	reparation blank was run at the frequency of one per twenty samples, or per sample (whichever is more frequent), and for each matrix analyzed.
Yes_X_	No
Comments:	None.
All analyzed bl	anks were free of contamination.
Yes	No_X_
Comments:	The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

## **Blank Contaminants**

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
РВ	Beryllium	0.1	MH1W35 MH1W36 MH1W49 MH1W50 MH1W51 MH1W52 MH1W53 MH1W53	<crql< td=""><td>5.0 U</td></crql<>	5.0 U

## URS Operating Services, Inc.

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
РВ	Selenium	6.665	MH1W46 MH1W49 MH1W50 MH1W53 MH1W54	<crql< td=""><td>35.0 U</td></crql<>	35.0 U
CCB12	Zinc	1.7	мні w51		60.0 U
ICB	Barium	0.685	All samples except MH1W51		200 U
CCB12 CCB14	Potassium	23.67 21.38	MH1W37 MH1W38 MH1W40 MH1W40 MH1W41 MH1W42 MH1W43 MH1W44 MH1W47 MH1W48 MH1W52 MH1W53 MH1W54		5000 U
ICB	Silver	2.015	MH1W36 MH1W38 MH1W42 MH1W52		10.0 U
CCB11 CCB13 CCB14	Aluminum	12.85 7.68 17.38	MH1W37 MH1W38 MH1W39 MH1W40 MH1W41 MH1W42 MH1W43 MH1W44 MH1W45 MH1W46 MH1W47 MH1W48 MH1W49 MH1W50 MH1W50 MH1W51 MH1W52 MH1W53 MH1W53		200 ປ
CCB11	Antimony	14.005	MHI W35 MHI W36 MHI W37 MHI W38 MHI W39 MHI W40 MHI W41 MHI W42 MHI W42 MHI W43 MHI W44 MHI W45		60.0 U
CCB10	Thallium	6.755	MH1W35		25.0 U

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
CCB10 CCB13	Copper	0.88 1.255	MH1W35 MH1W46 MH1W47 MH1W48 MH1W49 MH1W50 MH1W51 MH1W52 MH1W53 MH1W53	<crql< td=""><td>25.0 U</td></crql<>	25.0 U
CCB13	Arsenic	5.815	MH1W48 MH1W49 MH1W50 MH1W51 MH1W52 MH1W53 MH1W54	<crql <crql 10.1 10.9 11.7 12.4 12.8</crql </crql 	10.0 U 10.0 U U U U U U
CCB11	Iron	23.86	MH1W38 MH1W40	111 <crql< td=""><td>บ 100 บ</td></crql<>	บ 100 บ
PB	Lead	-2.895	MH1W37 MH1W38 MH1W39 MH1W41 MH1W42 MH1W46 MH1W47 MH1W48 MH1W49 MH1W52 MH1W53 MH1W54	<crql 14.475="" <crql="" <crql<="" td=""><td>J-</td></crql>	J-
РВ	Vanadium	-0.475	MH1W42 MH1W47 MH1W51	<crql< td=""><td>J-</td></crql<>	J-

#### 8. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but <u>not</u> prior to the ICV.

Yes\_X\_ No\_\_\_

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within  $\pm 2x$  the CRQL.

Yes\_X No\_\_\_

Comments: None.

Yes

9.

Yes X

Comments:

Yes X

Comments:

Comments:

No X

qualified as non-detected for blank contamination.

No\_\_\_

None.

No\_\_\_\_

None.

FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

The percent recoveries (%Rs) were calculated correctly.

one per sample delivery group (whichever is more frequent).

NA.

NA

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Antimony	-6.3	2.8	MH1W36, MH1W44, MH1W51	J-/UJ
Selenium	-5.4	4.7		
Thallium	-12.3	6.7		
Beryllium	0.51	0.063	MH1W36, MH1W51	J+
Cadmium	1.2	0.50	MH1W51	
Silver	4.2	1.1	MH1W36	

The results for antimony in samples MH1W36 and MH1W44; beryllium in samples MH1W36 and MH1W51; and silver in sample MH1W36 were not assigned bias because the results were

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or

were greater than the MDL in the ICSA analysis:

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

The following sample results were qualified because the results for calcium were greater than the ICSA values and the absolute values of the associated elements

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes X No

Comments: None.

11.

12.

### 10. FORM 5B - POST DIGEST SPIKE RECOVERY

Pre-digestion/	pre-distillati	erformed for those elements that did not meet the specified criteria (i.e on spike recovery falls outside of control limits and sample result is ike amount added, exception: Ag, Hg).
Yes	No	NA_X_
Comments:	None.	
FORM 6 - DI	UPLICATE	SAMPLE ANALYSIS
•	•	was performed with every twenty or fewer samples of a similar matrix group (whichever is more frequent).
Yes_X_	No	NA
Comments:	None.	
The RPDs wer	re calculated	correctly.
Yes_X_	No	NA
Comments:	None.	
•		greater than five times the CRQL, RPDs were within ±20% (limits of ents/tailings samples).
Yes_X_	No	NA
Comments:	None.	
•		less than five times the CRQL, duplicate analysis results were within RQL (two times CRQL for soils).
Yes_X_	No	NA
Comments:	None.	
ICP-MS		
Comments:	ICP-MS ar	nalyses were not performed on these samples.



14.

## 13. FORM 7 - LABORATORY CONTROL SAMPLE

	control sample (LCS) was prepared and analyzed with every twenty or fewer imilar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_	No
Comments:	None.
All results wer	re within control limits.
Yes_X_	No
Comments:	Results were within laboratory control limits.
FORM 8 - IC	P-AES QC
	on was performed for ICP analysis with every twenty or fewer samples of a similar per sample delivery group, whichever is more frequent.
Yes_X_	No
Comments:	None.
The serial dilu	tion was without interference problems as defined by the SOW.
Yes	No_X_
Comments:	The following serial dilution %Ds were greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Calcium	12%	All samples	J/UJ
Magnesium	11%		
Manganese	11%		
Potassium	14%		
Sodium	33%		
Zinc	36%		



15.	FORM 9 - A	NNUAL METHOD DETECTION LIMITS (MDL)
	MDLs were p	provided for all elements on the target analyte list.
	Yes_X_	No
	Comments:	None.
	Reported MD	Ls met SOW requirements.
	Yes_X_	No
	Comments:	None.
16.	FORM 10 - I	NTERELEMENT CORRECTION FACTORS FOR ICP
	Interelement of	corrections for ICP were reported.
	Yes_X_	No
	Comments:	None.
17.	FORM 11 - I	CP LINEAR RANGES
	ICP linear ran	ges were reported.
	Yes_X_	No
	Comments:	None.
18.	FORM 12 - P	PREPARATION LOG
	Information or	n the preparation of samples for analysis was reported on Form 12.
	Yes_X_	No
	Comments:	None.
19.	FORM 13 - A	NALYSIS RUN LOG
	A Form 13 wi	th the required information was filled out for each analysis run in the data package.
	Yes_X_	No
	Comments:	None.

20. Additional Comments or Problems/Resolutions Not Addressed	i Above
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Yes\_\_\_ No\_X

Comments: None.

#### INORGANIC DATA QUALITY ASSURANCE REVIEW

#### Region VIII

#### DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

#### GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

- R Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
- The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
- J+ The associated numerical value is an estimated quantity but the result may be biased high.
- J- The associated numerical value is an estimated quantity but the result may be biased low.
- U J The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
- N J Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
- U The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.



#### URS Operating Services, Inc.

#### **ACRONYMS**

AA Atomic Absorption

Ag Silver

CCB Continuing Calibration Blank

CCV Continuing Calibration Verification

CFR Code of Federal Regulations
CLP Contract Laboratory Program
CRA CRQL standard required for AA

CRQL Contract Required Quantitation Limit

CRI CRQL standard required for ICP

CV Cold Vapor

EPA U.S. Environmental Protection Agency
GFAA Graphite Furnace Atomic Absorption

Hg Mercury

ICB Initial Calibration Blank
ICP Inductively Coupled Plasma
ICS Interference Check Sample

ICSA Interference Check Sample (Solution A)
ICSAB Interference Check Sample (Solution AB)

ICV Initial Calibration Verification LCS Laboratory Control Sample

LRA Linear Range Verification Analysis

MDL Method Detection Limit
PDS Post Digestion Spike

QC Quality Control

RPD Relative Percent Difference RPM Regional Project Manager

RSD Percent Relative Standard Deviation

SA Spike Added

SAS Special Analytical Services
SDG Sample Delivery Group
SOW Statement of Work

SR Sample Result

SSR Spiked Sample Result

# 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W35

		MIII 422
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-0	1
Level: (low/med) LOW	Date Received: 10/06/200	06
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	М	}
7429-90-5	Aluminum	200	U		P	1
7440-36-0	Antimony	3.1	J		P	60.00
7440-38-2	Arsenic	19.3			P	}
7440-39-3	Barium	23.5	J		P	2000
7440-41-7	Beryllium	0.17	J		P	2000 500
7440-43-9	Cadmium	2.5	J	<u> </u>	P	}
7440-70-2	Calcium	221000		E	P	ブ
7440-47-3	Chromium	2.0	J		P	]
7440-48-4	Cobalt	50.0	U		P	Ì
7440-50-8	Copper	5.3	J		P	2500
7439-89-6	Iron	326			P	
7439-92-1	Lead	10.0	U		P	
7439-95-4	Magnesium	57200		Е	P	7
7439-96-5	Manganese	506		Е	P	5
7439-97-6	Mercury		Ţ - Ţ		NR	
7440-02-0	Nickel	2.6	J		P	_
7440-09-7	Potassium	5160		E	P	1
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	95100		E	P	ブ
7440-28-0	Thallium	6.9	J		P	25.00
7440-62-2	Vanadium	- 50.0	U		P	_
7440-66-6	Zinc	1010		Е	P	5
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

## 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W36

		MILLIWSU
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-0	2
Level: (low/med) LOW	Date Received: 10/06/200	06
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	M	}
7429-90-5	Aluminum	1350	T		P	]
7440-36-0	Antimony	17.6	J		P	60.0
7440-38-2	Arsenic	32.1			P	60.0 200 5,00
7440-39-3	Barium	33.4	J		P	200
7440-41-7	Beryllium	0.57	J		P	5,00
7440-43-9	Cadmium	156			P	i
7440-70-2	Calcium	302000		E	P	T
7440-47-3	Chromium	4.9	J	<del></del>	P	
7440-48-4	Cobalt	49.2	J		P	
7440-50-8	Copper	203			P	1
7439-89-6	Iron	21200			P	Ì
7439-92-1	Lead	1120			P	
7439-95-4	Magnesium	46400		E	P	1
7439-96-5	Manganese	1930		E	P	1
7439-97-6	Mercury				NR	
7440-02-0	Nickel	65.4			P	
7440-09-7	Potassium	11100		Е	P	<b>ブ</b>
7782-49-2	Selenium	35.0	Ū		P	5
7440-22-4	Silver	2.7	J		P	10.00
7440-23-5	Sodium	36700		E	P	1
7440-28-0	Thallium	25.0	U		P	سر.س
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	42900		E	P	5
57-12-5	Cyanide				NR	
			1 - 1 -			

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

FORM IA-IN

# 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA	SA	MP	LΕ	N	О
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					{	N	/H1W37
Lab Name_	CHEMTECH CO	ONSULTING GR	OUP Contract: EP	W06047	L		
Lab Code:	CHEM	Case No.: 3581	0 NRAS No.:		SDG No	.: MHIW	35
Matrix: (so	il/water <u>)_WATE</u>	IR	Lab San	nple ID <u>: ∑</u>	X4831-03		
Level: (low	/med) LOW	<del></del>	Date Rea	ceived <u>: 1</u>	0/06/2006		
% Solids: (	).0						
Concentrati	on Units (ug/L o	or mg/kg dry wei	ght): UG/L	<del></del>			
	CAS No.	Analyte	Concentration	С	Q	M	
	7429-90-5	Aluminum	33.3	T J T		P	عودل
		Antimony	34.8	1 -		P	60.00
	7440-38-2	<del></del>	7.1	+		P	1
	7440-39-3		49.8	+ + + +		P	2000
	7440-41-7		5.0	Ū		P	1000
		Cadmium	7.5	1		P	1
i	7440-70-2		208000	1	E	P	1丁
		Chromium	7.3	J		P	1 1
	7440-48-4		1.2	1 1		P	1
	7440-50-8		11.9	1		P	1
	7439-89-6		284	1 1	<del></del>	P	1
Į	7439-92-1	Lead	5.1	1 1		P	<b>ゴー</b>
į		Magnesium	50000	1-1	E	P	ケーケー
		Manganese	153	<del>  </del> -	E	P	ー
ŀ	7439-97-6			++	~	NR	1
ŀ	7440-02-0	Nickel	6.9	J		P	1
ţ	7440-09-7	Potassium	3790	<del>                                     </del>	E	P	SOOUT
ŀ	7782-49-2	Selenium	35.0	Ü		P	150000
ŀ	7440-22-4	Silver	10.0	Ü		P	5000VJ
ł	7440-23-5	Sodium	85700	<del>                                     </del>	E	P	丁
ŀ	7440-28-0	Thallium	25.0	U		P	1 ~ ·
Ì	7440-62-2	Vanadium	50.0	U		P	
ţ	7440-66-6	Zinc	2360	<del>                                     </del>	E	P	15
į.	57-12-5	Cyanide				NR	- ·
Ì			<del></del>			1	1
ŀ				<del> </del>			1
Color Before	: COLORLESS	Clarit	y Before: <u>CLEAR</u>		Texture:		
Color After:	COLORLESS	Clarit	y After: <u>CLEAR</u>		Artifacts:_		<del></del>
Comments:							

or Ai	fter: <u>COLORLESS</u>	Clarity After: <u>CLEAR</u>	Artifacts:
men	nts:		

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA	•	4 %	m	rr	110
HPA	•	ΔΛ	лν		NI
			ш.		110

MH1W38

		1.1111
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-0	14
Level: (low/med) LOW	Date Received: 10/06/20	06
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	JG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	18.9	J		P	2000
7440-36-0	Antimony	34.5	J		P	60.00
7440-38-2	Arsenic	8.0	J		P	1
7440-39-3	Barium	45.3	J		P	2000
7440-41-7	Beryllium	5.0	U		P	]
7440-43-9	Cadmium	6.9			P	] _
7440-70-2	Calcium	188000		E	P	] 5
7440-47-3	Chromium	7.0	J		P	]
7440-48-4	Cobalt	1.2	J		P	]
7440-50-8	Copper	11.0	J		P	] .
7439-89-6	Iron	111			P	] U
7439-92-1	Lead	3.6	J		P	] ブー
7439-95-4	Magnesium	45100		E	P	ナナ
7439-96-5	Manganese	128		E	P	] ブ
7439-97-6	Mercury				NR	}
7440-02-0	Nickel	5.0	J		P	]
7440-09-7	Potassium	3250	J	E	P	500015
7782-49-2	Selenium	35.0	U		P	1
7440-22-4	Silver	1.3	J		P	10.00
7440-23-5	Sodium	78400		E	P	
7440-28-0	Thallium	25.0	U		P	j
7440-62-2	Vanadium	50.0	U		P	]
7440-66-6	Zinc	2110		E	P	]づ
57-12-5	Cyanide				NR	]
						1
						] .

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: <u>COLORLESS</u>	Clarity After: CLEAR	Artifacts:
Comments:		

FORM IA-IN

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W39

Lab Name	CHEMTECH CO	ONSULTING GR	OUP Contract: EP	W0604	<sub>7</sub> L	<del></del>	
Lab Code:	CHEM	Case No.: 3581	0 NRAS No.: _		SDG No.	: MHIW	35
Matrix: (so	il/water <u>) WATE</u>	R	Lab Sam	ple ID <u>:</u>	X4831-05		
Level: (low	/med) LOW		Date Rec	eived <u>:</u>	10/06/2006		
% Solids <u>: (</u>	0.0						
Concentrati	on Units (ug/L o	or mg/kg dry wei	ght): UG/L				
	CAS No.	Analyte	Concentration	С	Q	M	]
	7429-90-5	Aluminum	23.2	J	<del></del>	P	250U 60,0U
	7440-36-0	Antimony	9.7	J		P	60,00
	7440-38-2	Arsenic	10.0	U		P	1
	7440-39-3	Barium	50.1	J		P	2000
	7440-41-7	Beryllium	5.0	U		P	1
	7440-43-9	Cadmium	5.0	U		P	1
	7440-70-2	Calcium	161000		E	P	15
	7440-47-3	Chromium	20.7			P	}
	7440-48-4	Cobalt	50.0	U		P	1
	7440-50-8	Copper	7.3	J		P	]
	7439-89-6	Iron	236			P	1
	7439-92-1	Lead	3.8	J		P	5
	7439-95-4	Magnesium	39000		E	P	57
	7439-96-5	Manganese	51.5		E	P	1:5
ŕ	7439-97-6	Mercury				NR	
İ	7440-02-0	Nickel	7.0	J		P	]
ſ	7440-09-7	Potassium	3390	J	E	P	Sugar
	7782-49-2	Selenium	35.0	U		P	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

10.0

25.0

50.0

318

74900

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U

E

E

7440-22-4 Silver

7440-66-6

7440-23-5 | Sodium

7440-28-0 Thallium

7440-62-2 | Vanadium

Zinc 57-12-5 Cyanide

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ILM05.3

P P

P

P P

NR

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W40

Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-0	6
Level: (low/med) LOW	Date Received: 10/06/200	06
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	G/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	25.7	J		P	200 U
7440-36-0	Antimony	19.9	1		P	ωο ε
7440-38-2	Arsenic	10.0	U		P	]
7440-39-3	Barium	51.5	J		P	المان تعدر [
7440-41-7	Beryllium	5.0	Ŭ		P	]
7440-43-9	Cadmium	2.4	J		P	]
7440-70-2	Calcium	171000	1	Е	P	丁
7440-47-3	Chromium	5.4	J		P	}
7440-48-4	Cobalt	50.0	U		P	1
7440-50-8	Copper	7.6	J		P	1 .
7439-89-6	Iron	85.0	J		P	1000
7439-92-1	Lead	10.0	Ū		P	1
7439-95-4	Magnesium	41500		E	P	二
7439-96-5	Manganese	85.1		E	P	1 —
7439-97-6	Mercury				NR	]
7440-02-0	Nickel	3.9	J		P	
7440-09-7	Potassium	3490	J	E	P	DOCUNT
7782-49-2	Selenium	35.0	U		P	}
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	77800		. E .	P	7
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	_
7440-66-6	Zinc	373		Е	P	5
57-12-5	Cyanide				NR	
		<del></del>			\	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		
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#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W41

Lab Name CHEMTECH CO	ONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u>	Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATE	R	Lab Sample ID: X4831-0	7
Level: (low/med) LOW		Date Received: 10/06/200	06
% Solids: 0.0			
Concentration Units (ug/L o	or <b>mg/kg</b> dry weight <u>): U</u>	G/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	28.3	J	<del></del>	P	2000
7440-36-0	Antimony	47.0	J		P	60,00
7440-38-2	Arsenic	6.4	J		P	
7440-39-3	Barium	46.5	J		P	2000
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	11.6			P	_
7440-70-2	Calcium	210000		E	P	J
7440-47-3	Chromium	3.1	J		P	
7440-48-4	Cobalt	2.2	J		P	
7440-50-8	Copper	8.8	J		P	
7439-89-6	Iron	160			P	
7439-92-1	Lead	3.7	J		P	J-
7439-95-4	Magnesium	50100		E	P	ナナ
7439-96-5	Manganese	147		E	P	<b>デ</b>
7439-97-6	Mercury				NR	
7440-02-0	Nickel	4.6	J		P	
7440-09-7	Potassium	3530	J	Е	P	SUECUS
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	84400		E	P	T
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	2700		E	P	5
57-12-5	Cyanide				NR	
		<del></del>	<del>                                     </del>			

Color Before: COLORLESS Clarity Before: CLEAR Texture:  Color After: COLORLESS Clarity After: CLEAR Artifacts:  Comments:	l	<del></del>	
• • • • • • • • • • • • • • • • • • • •	Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Comments:	Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
	Comments:		
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#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W42

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Lab Name CHEMTECH CO	ONSULTING GROUP	Contract: EPW06047	l	
Lab Code: <u>CHEM</u>	Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1W35
Matrix: (soil/water) WATE	R	Lab Sample ID: X4831-0	8	
Level: (low/med) LOW	·	Date Received: 10/06/200	16	
% Solids: 0.0				
Concentration Units (ug/L o	or mg/kg dry weight): U(	G/L		

CAS No.	Analyte	Concentration	С	Q	M	_
7429-90-5	Aluminum	40.5	J		P	2000 60.00
7440-36-0	Antimony	33.0	J		P	] 60.00
7440-38-2	Arsenic	11.9		<del></del>	P	1
7440-39-3	Barium	46.1	J		P	]2a /
7440-41-7	Beryllium	5.0	U		P	1
7440-43-9	Cadmium	4.0	J		P	1
7440-70-2	Calcium	226000		Ē	P	丁
7440-47-3	Chromium	71.4			P	}
7440-48-4	Cobalt	1.7	J		P	1
7440-50-8	Copper	10.0	J		P	1
7439-89-6	Iron	298			P	1
7439-92-1	Lead	2.6	J		P	J-
7439-95-4	Magnesium	53800		E	P	テ
7439-96-5	Manganese	141		E	P	丁
7439-97-6	Mercury				NR	1
7440-02-0	Nickel	7.1	J		P	1
7440-09-7	Potassium	2870	J	Е	P	5000:17
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	1.3	J		P	10.00
7440-23-5	Sodium	82600	1	E	P	<b>デ</b>
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.48	J		P	5-
7440-66-6	Zinc	1380		Е	P	.)
57-12-5	Cyanide				NR	

<u> </u>		
Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W43

Lab Name CHEMTECH CONSULTING GRO	PUP Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SD	G No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-09	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weigh	t): UG/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	21.2	J		P	2000
7440-36-0	Antimony	35.6	Ĵ		P	60.00
7440-38-2	Arsenic	10.0	U		P	]
7440-39-3	Barium	46.0	J		P	Deco
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	4.4	J		P	
7440-70-2	Calcium	228000		E	P	ブ
7440-47-3	Chromium	5.1	J		P	
7440-48-4	Cobalt	1.2	J		P	
7440-50-8	Copper	7.4	J		P	·
7439-89-6	Iron	120			P	
7439-92-1	Lead	10.0	U		P	
7439-95-4	Magnesium	55600		E	P	丁丁
7439-96-5	Manganese	170		E	P	ブ
7439-97-6	Mercury				NR	
7440-02-0	Nickel	4.7	J		P	
7440-09-7	Potassium	3320	J	E	P	30000
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	89600		E	P	·T
7440-28-0	Thallium	25.0	Ū		P	
7440-62-2	Vanadium	50.0	U		P	/
7440-66-6	Zinc	1680		E	P	5
57-12-5	Cyanide				NR	
			<u> </u>			

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

## 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W44

		MHIW4	+
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>	
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No.: MH1W35	
Matrix: (soil/water) WATER	Lab Sample ID: X4831-1	)	
Level: (low/med) LOW	Date Received: 10/06/200	6	
% Solids: 0.0			
Concentration Units (ug/L or mg/kg dry weight): U	JG/L		

CAS No.	Analyte	Concentration	С	Q	M	]
7429-90-5	Aluminum	34.2	J		P	1000 60.00
7440-36-0	Antimony	5.0	J		P	60.00
7440-38-2	Arsenic	10.0	U		P	1
7440-39-3	Barium	65.0	TI		P	2000
7440-41-7	Beryllium	5.0	U		P	]
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	296000		E	P	J
7440-47-3	Chromium	4.3	J		P	1
7440-48-4	Cobalt	50.0	Ū		P	
7440-50-8	Copper	3.6	J		P	
7439-89-6	Iron	267			P	
7439-92-1	Lead	10.0	U		P	
7439-95-4	Magnesium	64300		E	P	ナ
7439-96-5	Manganese	589		E	P	ナ
7439-97-6	Mercury				NR	
7440-02-0	Nickel	5.4	J		P	
7440-09-7	Potassium	1350	J	E	P	50500
7782-49-2	Selenium	35.0	U		P	VJ
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	76900		E	P	T_
7440-28-0	Thallium	25.0	U		P	ひろ
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	138		Е	P	ナ
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W45

		WILLIAM 42
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG	No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-11	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	JG/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-	5 Aluminum	16.6	J		Ρ.	2000
7440-36-	0 Antimony	31.4	J		P	60.00
7440-38-	2 Arsenic	6.3	J		P	] .
7440-39-	3 Barium	40.9	J		P	2000
7440-41-	7 Beryllium	5.0	U		P	
7440-43-	9 Cadmium	8.0			P	_
7440-70-	2 Calcium	227000		E	P	ナ
7440-47-	3 Chromium	20.2			P	
7440-48-	4 Cobalt	1.5	J		P	
7440-50-	8 Copper	11.9	J		P	
7439-89-	6 Iron	333			P	
7439-92-	l Lead	16.1	1 1		P	
7439-95-	4 Magnesium	56000		E	P	アナ
7439-96-		255	1	E	P	ナ
7439-97-	6 Mercury				NR	
7440-02-0	0 Nickel	8.5	J		P	
7440-09-1	7 Potassium	6010	$\top$	E	P	T
7782-49-2	2 Selenium	35.0	U		P	
7440-22-4	4 Silver	10.0	U		P	
7440-23-	5 Sodium	82400		Е	P	丁
7440-28-0	0 Thallium	25.0	U		P	
7440-62-2	2 Vanadium	50.0	U		P	·
7440-66-6	6 Zinc	2460		E	P	5
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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# . IA-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W46

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Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-1	2
Level: (low/med) LOW	Date Received: 10/06/200	06
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	30.6	J		P	2000
7440-36-0	Antimony	34.0	J		. P	]
7440-38-2	Arsenic	10.0	U		P	1 .
7440-39-3	Barium	37.4	J		P	1.COU
7440-41-7	Beryllium	5.0	U		P	1
7440-43-9	Cadmium	7.9			P	]
7440-70-2	Calcium	201000		E	P	] ブ
7440-47-3	Chromium	1.9	J		P	
7440-48-4	Cobalt	2.0	J		P	1
7440-50-8	Copper	11.0	J		P	25.00
7439-89-6	Iron	170			P	1
7439-92-1	Lead	10.4			P	] 丁-
7439-95-4	Magnesium	49600		Е	P	ナナ
7439-96-5	Manganese	80.8		E	P	1 _
7439-97-6	Мегсигу				NR	
7440-02-0	Nickel	1.7	J		P	}
7440-09-7	Potassium	6480		Ē	P	T
7782-49-2	Selenium	5.9	J		P	35,0 €
7440-22-4	Silver	10.0	U		P	1
7440-23-5	Sodium	73300		E	P	T
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	2060		Е	P	15
57-12-5	Cyanide				NR	
						]

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

# 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W47

		178.65.11.37
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-1	3
Level: (low/med) LOW	Date Received: 10/06/200	06
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	24.0	J		P	2004
7440-36-0	Antimony	13.2	J		P	1
7440-38-2	Arsenic	10.0	U		P	]
7440-39-3	Barium	44.1	J		P	2000
7440-41-7	Beryllium	5.0	U		P	[
7440-43-9	Cadmium	2.8	J		P	
7440-70-2	Calcium	138000		E	P	T
7440-47-3	Chromium	11.6			P	1
7440-48-4	Cobalt	1.2	J		P	
7440-50-8	Copper	8.5	J		P	2500
7439-89-6	Iron	151			P	
7439-92-1	Lead	2.5	J		P	<b>ブー</b>
7439-95-4	Magnesium	34600		E	P	ナ
7439-96-5	Manganese	60.3		E	P	7
7439-97-6	Mercury				NR	
7440-02-0	Nickel	8.1	J		P	
7440-09-7	Potassium	3380	J	E	P	SOCCUT
7782-49-2	Selenium	35.0	Ū		P	
7440-22-4	Silver	10.0	Ū		P	
7440-23-5	Sodium	49900		Е	P	<del></del>
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.84	J		P	<b>ブ</b> ー
7440-66-6	Zinc	1310		Е	P	・ナ
57-12-5	Cyanide	<del></del>			NR	

Clarity Before: CLEAR	Texture:
Clarity After: CLEAR	Artifacts:
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### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W48

		WITH W 40
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SE	OG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-14	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	26.9	J		P	2060
7440-36-0	Antimony	19.1	J		P	
7440-38-2	Arsenic	8.4	J		P	10.00
7440-39-3	Barium	57.5	J		P	2000
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	5.0	U		P	_
7440-70-2	Calcium	143000		E	P	
7440-47-3	Chromium	2.3	J		P	
7440-48-4	Cobalt	50.0	U		P	
7440-50-8	Copper	16.6	J		P	2500
7439-89-6	Iron	355			P	
7439-92-1	Lead	5.9	J		P	エー
7439-95-4	Magnesium	34600		E	P	
7439-96-5	Manganese	190		E	P	ナ
7439-97-6	Mercury				NR	
7440-02-0	Nickel	2.8	J		P	
7440-09-7	Potassium	3060	J	E	P	Sccc U 5
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	60400		E	P	T
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	_
7440-66-6	Zinc	469		E	P	·T
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPÀ SAMPLE NO.

MH1W49

Lab Name CHEMTECH CO	ONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATE	R	Lab Sample ID <u>: X4831-1</u>	5
Level: (low/med) LOW	<del></del>	Date Received: 10/06/200	)6
% Solids: 0.0			
Concentration Units (ug/L o	or mg/kg dry weight): U	G/L	

CAS No.	Analyte	Concentration	С	Q	М	}
7429-90-5	Aluminum	33.4	J		P	3200
7440-36-0	Antimony	32.2	J		P	1
7440-38-2	Arsenic	8.5	J		P	10.0
7440-39-3	Barium	49.7	J		P	200
7440-41-7	Beryllium	0.090	J		P	]5.0
7440-43-9	Cadmium	16.3			P	]
7440-70-2	Calcium	199000		E	P	ファ
7440-47-3	Chromium	35.0			P	]
7440-48-4	Cobalt	1.8	J		P	1
7440-50-8	Copper	21.7	J		P	25.0
7439-89-6	Iron	294			P	]
7439-92-1	Lead	5.5	J		P	ブー
7439-95-4	Magnesium	47900		E	P	ブ
7439-96-5	Manganese	485		E	P	ナ
7439-97-6	Mercury				NR	1
7440-02-0	Nickel	17.8	J		P	] _
7440-09-7	Potassium	6600		Е	P	1.5
7782-49-2	Selenium	13.6	J		P	350
7440-22-4	Silver	10.0	U		P	}
7440-23-5	Sodium	119000		E	P	5
7440-28-0	Thallium	25.0	Ü		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	2370		E	P	ブ
57-12-5	Cyanide				NR	)
-						

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W50

Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	<u></u>
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-16	<u> </u>
Level: (low/med) LOW	Date Received: 10/06/200	6
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): I	IG/I	

CAS No.	Analyte	Concentration	С	Q	M	] .
7429-90-5	Aluminum	10.8	J		P	200
7440-36-0	Antimony	10.1	J		P	1
7440-38-2	Arsenic	10.1			P	
7440-39-3	Barium	40.8	J		P	2000
7440-41-7	Beryllium	0.13	J		P	]5.0 €
7440-43-9	Cadmium	9.6			P	
7440-70-2	Calcium	1.76000		E	P	] ブ
7440-47-3	Chromium	15.2			P	
7440-48-4	Cobalt	6.2	Ĵ		P	İ
7440-50-8	Copper	8.8	J	<del></del>	P	2500
7439-89-6	Iron	240			P	
7439-92-1	Lead	10.0	Ü		P	j
7439-95-4	Magnesium	43300		E	P	ブ
7439-96-5	Manganese	670		Е	P	ブ
7439-97-6	Mercury				NR	ĺ
7440-02-0	Nickel	18.3	J		P	
7440-09-7	Potassium	5890		E	P	5
7782-49-2	Selenium	19.4	J		P	35.0 U
7440-22-4	Silver	10.0	Ū		P	
7440-23-5	Sodium	117000		E	P	ナ
7440-28-0	Thallium	25.0	U		Р	
7440-62-2	Vanadium	50.0	Ū		P	<u> </u>
7440-66-6	Zinc	2210		E	P	<b>ブ</b>
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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# 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W51

Lab Name CHEMTECH CO	NSULTING GROUP	Contract: EPW06047	. I		
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No	.: MH1W35	
Matrix: (soil/water) WATER	<u>t</u>	Lab Sample ID: X4831-1	7		
Level: (low/med) LOW	<del></del>	Date Received: 10/06/200	6		
% Solids: 0.0					
Concentration Units (ug/L or	mg/kg dry weight): U(	G/L			

CAS No.	Analyte	Concentration	С	Q	М	j
7429-90-5	Aluminum	26.6	J		P	$2\alpha$
7440-36-0	Antimony	5.2	J		P	ぎ
7440-38-2	Arsenic	10.9			P	] <i>U</i>
7440-39-3	Barium	562			P	] .
7440-41-7	Beryllium	0.065	J		P	3.00T
7440-43-9	Cadmium	3.1	J		P	ブナ
7440-70-2	Calcium	261000		E	P	-T
7440-47-3	Chromium	2.5	J		P	]
7440-48-4	Cobalt	50.0	Ü		P	}
7440-50-8	Copper	6.6	J		P	25,00
7439-89-6	Iron	49.6	J		P	1
7439-92-1	Lead	15.8			P	]
7439-95-4	Magnesium	72200		E	P	] 丁
7439-96-5	Manganese	477		E	P	「デ
7439-97-6	Mercury				NR	]
7440-02-0	Nickel	3.8	J		P	1
7440-09-7	Potassium	19000		E	P	グブ
7782-49-2	Selenium	35.0	U		P	Uti
7440-22-4	Silver	10.0	Ú		P	
7440-23-5	Sodium	146000		E	P	T- 50.04
7440-28-0	Thallium	25.0	Ü		P	0
7440-62-2	Vanadium	2.0	J		P	J
7440-66-6	Zinc	55.1	J	Е	P	60:045
57-12-5	Cyanide				NR	
						•

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

ILM05.3

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1/2/166

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W52

		WITH 1 44 22
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u>L</u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-20	)
Level: (low/med) LOW	Date Received: 10/06/2000	6
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	G/L	

CAS No.	Analyte	Concentration	С	Q	М	]
7429-90-5	Aluminum	20.4	J		P	2000
7440-36-0	Antimony	6.1	J		P	l
7440-38-2	Arsenic	11.7	T		P	U
7440-39-3	Barium	60.7	J		P	2000
7440-41-7	Beryllium	0.14	J		P	500
7440-43-9	Cadmium	1.1	J		P	
7440-70-2	Calcium	142000		E	P	丁 ニ
7440-47-3	Chromium	10.6			P	}
7440-48-4	Cobalt	50.0	Ü		P	
7440-50-8	Copper	6.1	J		P	25.00
7439-89-6	Iron	149			P	
7439-92-1	Lead	6.3	J		P	5-
7439-95-4	Magnesium	35400		E	P	5
7439-96-5	Manganese	79.6		E	P	<b>ブー</b>
7439-97-6	Mercury				NR	
7440-02-0	Nickel	4.9	J		P	
7440-09-7	Potassium	3090	J	E	P	SOCOUT.
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	1.2	J		P	10.00
7440-23-5	Sodium	56400		E	P	ブ
7440-28-0	Thallium	25.0	Ū		P	
7440-62-2	Vanadium	50.0	U	<del></del>	P	
7440-66-6	Zinc	426		E	P	ゴ
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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#### 1A-IN NORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W53

				WILLIAMOD	
Lab Name CHEMTECH CO	INSULTING GROUP	Contract: EPW06047			
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No	o.: MH1W35	
Matrix: (soil/water) WATE	R	Lab Sample ID: X4831-2	1	·	
Level: (low/med) LOW		Date Received: 10/06/200	)6		
% Solids: 0.0					
Concentration Units (ug/L o	r <b>mg/kg</b> dry weight <u>): U</u>	G/L			
·					

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	29.9	J		P	2000
7440-36-0	Antimony	22.6	J		P	}
7440-38-2	Arsenic	12.4	1		P	1 U
7440-39-3	Barium	17.5	J		P	2000
7440-41-7	Beryllium	0.11	J		P	5.00
7440-43-9	Cadmium	17.4			P	]
7440-70-2	Calcium	173000		E	P	5
7440-47-3	Chromium	67.0			P	1
7440-48-4	Cobalt	50.0	Ū		P	]
7440-50-8	Copper	19.0	1		P	25.00
7439-89-6	Iron	1320			P	1
7439-92-1	Lead	5.4	J	1	P	5-
7439-95-4	Magnesium	33800		E	P	于
7439-96-5	Manganese	605		E	P	15
7439-97-6	Mercury				NR	ļ
7440-02-0	Nickel	29.5	J		P	]
7440-09-7	Potassium	3850	1	E	P	SOCOU
7782-49-2	Selenium	8.0	J	<u> </u>	P	35,00
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	60900	1	Е	P	T
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	3900		E	P	5
57-12-5	Cyanide				NR	
			1			

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W54

		141111 44 24
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1W35
Matrix: (soil/water) WATER	Lab Sample ID: X4831-2	2
Level: (low/med) LOW	Date Received: 10/06/200	)6
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	JG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	52.9	J		P	2000
7440-36-0	Antimony	9.6	J		P	1
7440-38-2	Arsenic	12.8	$\Box$		P	Ιυ.
7440-39-3	Barium	56.9	J		P	12000
7440-41-7	Beryllium	0.090	J		P	5.00
7440-43-9	Cadmium	0.66	J		P	}
7440-70-2	Calcium	148000		E	P	5
7440-47-3	Chromium	18.2			P	]
7440-48-4	Cobalt	50.0	U		P	]
7440-50-8	Copper	6.0	J		P	] 23.0U
7439-89-6	Iron	280			P	]
7439-92-1	Lead	3.7	J		P	1丁-
7439-95-4	Magnesium	34900		E	P	アナ
7439-96-5	Manganese	192		E	P	[ ブ
7439-97-6	Mercury				NR	1
7440-02-0	Nickel	8.9	1		P	1
7440-09-7	Potassium	3120	J	E	P	50000
7782-49-2	Selenium	8.2	J		P	5000U 35,0U
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	61200		E	P	丁
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	Ü		P	
7440-66-6	Zinc	461		Е	P	1
57-12-5	Cyanide				NR	

Color Be	fore: COLORLESS	Clarity Before: CLEAR	Texture:
Color Aff	ter: COLORLESS	Clarity After: CLEAR	Artifacts:
Commen	ts:		

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# REGION VIII DATA VALIDATION REPORT INORGANIC

Case No. / TDD No.	Site N	ame	Operable Unit
35810 / 0611-06	Lower Silver Creek		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ChemTech Consulting Group	EPW06047	MH1PP2	

Review Assigned Date	November 16, 2006	Data Validator	Lisa Tyson
Review Completion Date		Report Reviewer_	

Sample ID	Matrix	Analysis
MH1PP2	Soil	CLP - Metals
МН1РР3		
MH1PP4		
MH1PP5		
MH1PP6		
MH1PP7		
MH1PP8	1	
MH1PP9		
MH1PQ0		
MH1PQ1		
MH1PQ2		
MH1PQ3		
MH1PQ4	·	
MH1PQ5		

Sample ID	Matrix	Analysis
MH1PQ6	Soil	CLP – Metals
MH1PQ7		
MH1PQ8		
MH1PQ9		
MH1PR0		
MH1PR1		

Data Validation Report

### DATA QUALITY STATEMENT

()	Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
()	Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X)	Data are acceptable with QUALIFICATIONS noted in review.
Telepl	none/Communication Logs Enclosed? Yes NoX
CLP P	roject Officer Attention Required? Yes No X If yes, list the items that require

### INORGANIC DATA VALIDATION REPORT

#### **REVIEW NARRATIVE SUMMARY**

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in <u>each</u> of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 35810, SDG No. MH1PP2, consisted of 20 soil samples for CLP metals by ICP-AES (ILM05.3). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH1PP3, MH1PP6, MH1PQ0, MH1PQ1, MH1PQ2	Barium	U	Laboratory blank contamination	7
MH1PP2, MH1PP4, MH1PP5, MH1PP6, MH1PP8, MH1PP9, MH1PQ0, MH1PQ3, MH1PQ4, MH1PQ5, MH1PQ8, MH1PQ9, MH1PR0, MH1PR1	Beryllium			
MH1PP3	Cadmium			
MH1PQ0, MH1PQ2, MH1PQ4, MH1PR1	Nickel			
MH1PQ0, MH1PQ1, MH1PQ2, MH1PQ3, MH1PQ4, MH1PQ5, MH1PQ6, MH1PQ7, MH1PQ9, MH1PR0, MH1PR1	Potassium			
MH1PP3	Silver	]		
MH1PP2, MH1PP3, MH1PP4, MH1PP5, MH1PP6, MH1PP7, MH1PP8, MH1PP9, MH1PQ0, MH1PQ1, MH1PQ2, MH1PQ3, MH1PQ4, MH1PQ5, MH1PQ6, MH1PQ8, MH1PQ9, MH1PR0, MH1PR1	Sodium			
MH1PP2, MH1PP3, MH1PQ1, MH1PQ2, MH1PR1	Magnesium	J-	Negative blank contamination	
MH1PP2, MH1PP3, MH1PP4, MH1PP5, MH1PP6, MH1PP7, MH1PP8, MH1PP9	Potassium			

**Data Validation Report** 

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH1PP5, MH1PP8, MH1PQ2, MH1PQ3, MH1PQ7, MH1PQ9, MH1PR0	Thallium	J-	Negative blank contamination	7
MH1PP5, MH1PP8, MH1PQ0, MH1PQ6, MH1PQ7, MH1PR0	Selenium			
MH1PP4, MH1PP5, MH1PP8, MH1PQ0, MH1PQ7, MH1PQ9, MH1PR0	Selenium Thallium	J-/UJ	Interference check exceeded criteria, negative interference	8
MH1PP4, MH1PP5, MH1PP8, MH1PQ0, MH1PQ9, MH1PR0	Beryllium Sodium	J+	Interference check exceeded criteria, positive interference	
All samples	Chromium Copper Iron Lead Magnesium Manganese Nickel Sodium Zinc	J/UJ	Serial dilution %D greater than 10% and original sample value at least 50*IDL	14

<sup>\*</sup> Various results for beryllium and sodium were not assigned bias because the results were qualified as non-detected for blank contamination.

4.



1.	DELIVERA	BLES
	All deliverab	les were present as specified in the Statement of Work.
	Yes_X_	No
	Comments:	None.
2.	HOLDING 7	ΓΙΜΕS AND PRESERVATION CRITERIA
	All technical	holding times and preservation criteria were met.
	Yes_X_	No
	Comments:	The samples were analyzed within holding times and were received within the recommended temperature range of $4 \pm 2$ °C. Chain-of-custody (COC), summary forms, and raw data were evaluated.
3.	INSTRUME	NT CALIBRATIONS: STANDARDS AND BLANKS
	Initial instrun	nent calibrations were performed according to SOW requirements.
	Yes_X_	No
	Comments:	None.
	The instrumer	nts were calibrated daily and each time an analysis run was performed.
	Yes_X_	No
	Comments:	None.
	The instrumer	nts were calibrated using one blank and the appropriate number of standards.
	Yes_X_	No
	Comments:	None.
4.	FORM 1 - SA	AMPLE ANALYSIS RESULTS
	Sample analys	ses were entered correctly on Form Is.
	Yes X	No
	Comments:	The results for zinc in samples MH1PP4 and MH1PP5 were reported from a 4x dilution and the result for zinc in sample MH1PQ0 was reported from a 2x

Inorganic - 6 MH1PP2m

dilution. The laboratory flagged these results with a "D" qualifier.



6.

7.

### 5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and SOW requires	d continuing calibration verification standards (ICV and CCV, respectively) met ments.
Yes_X_	No
Comments:	None.
	on verification results were within 90-110% recovery for metals, 85-115% for 80-120% for mercury.
Yes_X_	No
Comments:	None.
The continuin	g calibration standards were run at 10% frequency or every two hours.
Yes_X_	No
Comments:	None.
ICP Analysis: run and every	CRQL CHECK STANDARD  Standards (CRI) were analyzed at the beginning and end of each sample analysis 20 analytical samples, immediately preceding the interferences check sample not before ICV analysis.
Yes X	No
Comments:	None.
The CRI recov	veries were within 70-130% (50-150% for Sb, Pb, and Tl) for required elements.
Yes_X_	No
Comments:	None.
FORM 3 - BL	ANKS
The initial and requirements.	continuing calibration blanks (ICB and CCB, respectively) met SOW
Yes_X_	No
Comments:	None.

Comments:

The continuing calibration blanks were run at 10% frequency.

Yes\_X\_ No\_\_\_

Comments: Continuing calibration blanks were run every 10 samples.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes\_X\_ No\_\_\_

Comments: None.

All analyzed blanks were free of contamination.

Yes\_\_\_ No\_X\_

#### **Blank Contaminants**

The following table lists the blanks with contamination that resulted in sample

qualification, elements present, affected samples, and data qualifiers:

Blank ID	Contaminant	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
РВ	Barium	0.103	MH1PP3 MH1PP6 MH1PQ0 MH1PQ1 MH1PQ2	<crql< td=""><td>147 U 28.4 U 27.8 U 163 U 256 U</td></crql<>	147 U 28.4 U 27.8 U 163 U 256 U
ICB	Beryllium	0.01	MH1PP2 MH1PP4 MH1PP5 MH1PP6 MH1PP8 MH1PP9 MH1PQ0 MH1PQ3 MH1PQ4 MH1PQ5 MH1PQ8 MH1PQ8 MH1PQ9 MH1PR0 MH1PR1		4.1 U 0.96 U 1.3 U 0.71 U 1.5 U 2.7 U 0.69 U 1.4 U 1.1 U 0.73 U 1.2 U 1.1 U 0.95 U 0.81 U
CCB2	Cadmium	0.059	MH1PP3		3.6 U
CCB3 CCB4	Nickel	0.1025 0.0825	MHIPQ0 MHIPQ2 MHIPQ4 MHIPRI		5.6 U 51.3 U 9.1 U 6.5 U

Blank ID	Contaminant	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
CCB3 CCB4 CCB5	Potassium	3.872 6.935 7.629	MH1PQ0 MH1PQ1 MH1PQ2	<crql< td=""><td>695 U 4065 U 6410 U</td></crql<>	695 U 4065 U 6410 U
			MH1PQ3		1362 U
	1		MH1PQ4		1136 U
	1	ļ	MH1PQ5		734 U
	]		MH1PQ6 MH1PQ7		2500 U 2778 U
	[		MH1PQ9	ĺ	1089 U
	}		MH1PR0		954 U
			MHIPRI		809 U
ICB	Silver	0.2015	MH1PP3		7.4 U
ICB	Sodium	0.6325	MH1PP2		4132 U
	,		MH1PP3		3676 U
		1	MH1PP4		962 U
			MH1PP5		1266 U
		]	MH1PP6 MH1PP7		710 U 2577 U
		]	MH1PP8		1458 U
		l l	MH1PP9		2660 U
		·	MH1PQ0		695 U
		i	MHIPQI		4065 U
ĺ		]	MH1PQ2		6410 U
		}	MH1PQ3		1362 U
		i	MH1PQ4		1136 U
		1	MHIPQ5		1734 U
		į l	MH1PQ6		2500 U 1163 U
		]	MH1PQ8 MH1PQ9		1089 U
}		<b>[</b> ]	MH1PR0		954 U
			MHIPRI		809 U
PB	Magnesium	-3.408	MH1PP2		J-
1		,	MH1PP3		
- 1		1	MHIPQI		
]			MH1PQ2 MH1PR1		
PB	Potassium	-4.508	MH1PP2		l
- 1			MH1PP3		
1		1	MH1PP4		
			MHIPP5		
			MH1PP6		
			MHIPP7 MHIPP8	ļ	
į			MHIPP9		
PB	Thallium	-1.015	MH1PP5		
j		1	MH1PP8		
1			MH1PQ2		
1	İ		MHIPQ3		
1			MH1PQ7	Ì	
	ŀ		MH1PQ9 MH1PR0		
PB	Selenium	-1.562	MH1PP5	<crql< td=""><td></td></crql<>	
			MH1PP8	<crql< td=""><td></td></crql<>	
j			MH1PQ0	7.2	
-		İ	MH1PQ6	<crql< td=""><td></td></crql<>	
- 1		ļ	MHIPQ7	<crql< td=""><td></td></crql<>	
	1		MHIPRO	<crql< td=""><td></td></crql<>	

### 8. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but not prior to the ICV.

Yes\_X\_ No\_\_\_

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ±2x the CRQL.

Yes\_X No\_\_\_

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes\_\_\_ No\_X

Comments:

The following sample results were qualified because the results for iron were greater than the ICSA values and the absolute values of the associated elements

were greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Selenium	-16.8	3.9	MH1PP4, MH1PP5, MH1PP8, MH1PQ0, MH1PQ7, MH1PQ9, MH1PR0	J- / UJ
Thallium	-19.8	5.3		
Beryllium	0.43 / 0.55	0.032	MH1PP4, MH1PP5, MH1PP8, MH1PQ0, MH1PQ9, MH1PR0	J+
Sodium	856 / 859	3.0		

Various results for beryllium and sodium were not assigned bias because the results were qualified as non-detected for blank contamination.

10.

11.

**Data Validation Report** 

URS Operating Services, Inc.

### 9. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

		s analyzed with every twenty or fewer samples of a similar matrix, or roup (whichever is more frequent).
Yes_X_	No	NA
Comments:	None.	
The percent re	ecoveries (%	Rs) were calculated correctly.
Yes_X_	No	NA
Comments:	None.	
		hin the range of 75-125% (an exception is granted where the sample sthe spike concentration).
Yes_X_	No	
Comments:	None.	
FORM 5B - F	OST DIGE	ST SPIKE RECOVERY
Pre-digestion/1	ore-distillati	erformed for those elements that did not meet the specified criteria (i.e., on spike recovery falls outside of control limits and sample result is ke amount added, exception: Ag, Hg).
Yes	No	NA_X
Comments:	None.	
FORM 6 - DU	PLICATE	SAMPLE ANALYSIS
	•	was performed with every twenty or fewer samples of a similar matrix, group (whichever is more frequent).
Yes_X_	No	NA
Comments:	None.	
The RPDs were	e calculated	correctly.
Yes_X_	No	NA
Comments:	None.	

			s greater than five times the CRQL, RPDs were within $\pm 20\%$ (limits of ments/tailings samples).
	Yes_X_	No	NA
	Comments:	None.	
	•		s less than five times the CRQL, duplicate analysis results were within CRQL (two times CRQL for soils).
	Yes_X_	No	NA
	Comments:	None.	
12.	ICP-MS		
	Comments:	ICP-MS a	analyses were not performed on these samples.
13.	FORM 7 - L	ABORATO	RY CONTROL SAMPLE
		•	nple (LCS) was prepared and analyzed with every twenty or fewer x, or one per sample delivery group (whichever is more frequent).
	Yes_X_	No	
•	Comments:	None.	
	All results we	ere within cor	ntrol limits.
	Yes_X_	No	
	Comments:	Results we	ere within laboratory control limits.
14.	FORM 8 - 10	CP-AES QC	
			rmed for ICP analysis with every twenty or fewer samples of a similar delivery group, whichever is more frequent.
	Yes_X_	No	
	Comments:	None.	

The serial dilution was without interference problems as defined by the SOW. No\_X\_ Yes\_\_\_\_

Comments:

The following serial dilution %Ds were greater than 10% and the original sample result was at least 50\* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Chromium	11%	All samples	J/UJ
Copper	19%		
Iron	11%		
Lead	14%		
Magnesium	11%		
Manganese	12%		
Nickel	13%		
Sodium	11%		
Zinc	16%		

#### 15. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.						
Yes_X_	No					
Comments:	None.					
Reported MDLs met SOW requirements.						
Yes_X_	No					

None. Comments:

#### FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP 16.

Interelement corrections for ICP were reported.

Yes\_X\_ No\_\_\_\_

Comments: None.



17.	FORM 11 - ICP LINEAR RANGES						
	ICP linear ran	nges were reported.					
	Yes_X_	No					
	Comments:	None.					
18.	FORM 12 - I	PREPARATION LOG					
	Information o	n the preparation of samples for analysis was reported on Form 12.					
	Yes_X_	No					
	Comments:	None.					
19.	FORM 13 - A	ANALYSIS RUN LOG					
	A Form 13 wi	th the required information was filled out for each analysis run in the data package.					
	Yes_X_	No					
	Comments:	None.					
20.	Additional Co	omments or Problems/Resolutions Not Addressed Above					
	Yes	No_X_					
	Comments:	None.					

#### INORGANIC DATA QUALITY ASSURANCE REVIEW

#### Region VIII

#### DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

#### GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

- R Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
- J The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
- J+ The associated numerical value is an estimated quantity but the result may be biased high.
- J- The associated numerical value is an estimated quantity but the result may be biased low.
- U J The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
- N J Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
- U The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

### **ACRONYMS**

AA Atomic Absorption

Ag Silver

CCB Continuing Calibration Blank

CCV Continuing Calibration Verification

CFR Code of Federal Regulations
CLP Contract Laboratory Program
CRA CRQL standard required for AA

CRQL Contract Required Quantitation Limit

CRI CRQL standard required for ICP

CV Cold Vapor

EPA U.S. Environmental Protection Agency
GFAA Graphite Furnace Atomic Absorption

Hg Mercury

ICB Initial Calibration BlankICP Inductively Coupled PlasmaICS Interference Check Sample

ICSA Interference Check Sample (Solution A)
ICSAB Interference Check Sample (Solution AB)

ICV Initial Calibration Verification
LCS Laboratory Control Sample

LRA Linear Range Verification Analysis

MDL Method Detection Limit
PDS Post Digestion Spike
OC Quality Control

RPD Relative Percent Difference RPM Regional Project Manager

RSD Percent Relative Standard Deviation

SA Spike Added

SAS Special Analytical Services
SDG Sample Delivery Group
SOW Statement of Work

SR Sample Result

SSR Spiked Sample Result

# 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

					MIHITE 2
Lab Name <u>CHEMTECH C</u>	ONSULTING GROUP	Contract: EF	W06047		L
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:		_ SDG N	o.: MH1PP2
Matrix: (soil/water) SOIL		Lab Sar	nple ID <u>: X48</u>	05-01	<u> </u>
Level: (low/med) LOW		Date Re	ceived <u>: 10/06</u>	6/2006	
% Solids: 12.1			•	•	
Concentration Units (ug/L	or mg/kg dry weight):	MG/KG			
CAS No.	Analyte	Concentration	С	Q	М

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	4260	T		P	1
7440-36-0	Antimony	382			P	1
7440-38-2	Arsenic	192			P	)
7440-39-3	Barium	241			P	}
7440-41-7	Beryllium	0.36	J		P	니다
7440-43-9	Cadmium	72.5			P	1
7440-70-2	Calcium	16600			P	1
7440-47-3	Chromium	23.9		E	P	5
7440-48-4	Cobalt	3.9	J		P	] _
7440-50-8	Copper	750		Ē	P	15
7439-89-6	Iron	11800		E	P	5
7439-92-1	Lead	7040		E	P	7
7439-95-4	Magnesium	3230	j	E	P	J-
7439-96-5	Manganese	543		E	P	<b>丁</b>
7439-97-6	Mercury				NR	Į
7440-02-0	Nickel	13.2	J	Е	P	サー
7440-09-7	Potassium	470	J		P	5-
7782-49-2	Selenium	28.6	υ		P	
7440-22-4	Silver	59.5			P	_
7440-23-5	Sodium	1380	J	Е	P	413215
7440-28-0	Thallium	20.5	U		P	
7440-62-2	Vanadium	13.8	j		P	_
7440-66-6	Zinc	8390		E	P	ブ
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PP3

				· MH1PP3		
Lab Name CHEMTECH CONSUL	LTING GROUP	Contract: EPW06047		<u> </u>		
Lab Code: <u>CHEM</u> Case	No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PP2		
Matrix: (soil/water) SOIL		Lab Sample ID: X4805-0	2			
Level: (low/med) LOW	<u>-</u>	Date Received: 10/06/200	6	<del></del>		
% Solids: 13.6						
Concentration Units (ug/L or mg/kg dry weight): MG/KG						

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	854	T		P	
7440-36-0	Antimony	99.9			P	
7440-38-2	Arsenic	831			P	
7440-39-3	Barium	87.8	J		P	1470
7440-41-7	Beryllium	3.6	U		P	
7440-43-9	Cadmium	1.5	J		P	7.60
7440-70-2	Calcium	8910			P	
7440-47-3	Chromium	33.3		Е	P	7
7440-48-4	Cobalt	36.4	U		P	
7440-50-8	Copper	55.3		E	P	
7439-89-6	Iron	41100		E	P	~
7439-92-1	Lead	955		Е	P	7
7439-95-4	Magnesium	752	J	E	P	ፓ
7439-96-5	Manganese	78.7		Е	P	T-
7439-97-6	Mercury				NR	
7440-02-0	Nickel	10.8	J	E	P	<del>]</del>
7440-09-7	Potassium	278	J		P	Γ-
7782-49-2	Selenium	25.5	Ū		P	
7440-22-4	Silver	3.3	J		P	7.416 <sup>1</sup> 5.4766
7440-23-5	Sodium	330	J	Е	P	36766
7440-28-0	Thallium	18.2	U		P	
7440-62-2	Vanadium	32.5	J		P	
7440-66-6	Zinc	617		E	P	<b>(</b> )
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

(1) NO

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PP4

		) ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	
Lab Code: CHEM Case No.: 35810	NRAS No.: SDO	G No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-03	
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>
% Solids: 52.0		
Concentration Units (ug/L or mg/kg dry weight): M	1G/KG	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	1260		<del></del>	P	]
7440-36-0	Antimony	97.8			P	]
7440-38-2	Arsenic	219			P	]
7440-39-3	Barium	128			P	·
7440-41-7	Beryllium	0.093	J		P	3.4605
7440-43-9	Cadmium	112			P	1
7440-70-2	Calcium	16700			P	]
7440-47-3	Chromium	34.6		E	P	! デ
7440-48-4	Cobalt	25.8			P	}
7440-50-8	Copper	236		E	P	5
7439-89-6	Iron	27000		Ē	P	丁
7439-92-1	Lead	4060		E	P	して
7439-95-4	Magnesium	5130		E	P	ナーナ
7439-96-5	Manganese	7270		E	P	T
7439-97-6	Mercury				NR	
7440-02-0	Nickel	17.1		E	P	T
7440-09-7	Potassium	219	J		P	5-1
7782-49-2	Selenium	6.7	U		P	165
7440-22-4	Silver	19.1			P	962UT
7440-23-5	Sodium	213	)	E	P	9620)
7440-28-0	Thallium	4.8	U		P	ひず
7440-62-2	Vanadium	8.0	J		P	
7440-66-6	Zinc	28600		ED	P	ブ
57-12-5	Cyanide				NR	1
						ı

Color Before: BROWN	Clarity Before:	Texture: <u>MEDIUM</u>
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

11/27/02

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MATTI DDE

		MIHIPPS
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-0	4
Level: (low/med) LOW	Date Received: 10/06/200	6
% Solids: 39.5		
Concentration Units (ug/L or mg/kg dry weight): M	1G/KG	

CAS No.	Analyte	Concentration	С	Q	M		
7429-90-5	Aluminum	2870	T		P	7	
7440-36-0	Antimony	176			P	1	
7440-38-2	Arsenic	335			P	7	
7440-39-3	Barium	74.9			P	]	
7440-41-7	Beryllium	0.14	J		P	1+27-43	1,30
7440-43-9	Cadmium	138			P	1	
7440-70-2	Calcium	14700			P	1	-
7440-47-3	Chromium	12.3		E	P	] ブ	
7440-48-4	Cobalt	12.2	1		P	]	
7440-50-8	Copper	332		E	P	1丁	
7439-89-6	Iron	42000		Е	P	子	
7439-92-1	Lead	5140	177	Е	P		
7439-95-4	Magnesium	5990		E	P	「 て	
7439-96-5	Manganese	931	1-1-	E	P	ー	
7439-97-6	Mercury				NR	1 _	
7440-02-0	Nickel	8.5	J	E	P	15	
7440-09-7	Potassium	429	J		P	<b>ブ</b> ー	
7782-49-2	Selenium	8.0	J		P	15-	
7440-22-4	Silver	35.8			P	1	-
7440-23-5	Sodium	299	J	E	P	126607	
7440-28-0	Thallium	3.2	J	<del></del>	P	5-	
7440-62-2	Vanadium	11.3	1		P	1	
7440-66-6	Zinc	36400		ED	P	1	
57-12-5	Cyanide				NR	1	
		·				1	
						1	

Color Before: BROWN	Clarity Before:	Texture: <u>MEDIUM</u>
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

V 11/2/08

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA	$\sim$	1 M	_	> I/>
HDA	× Δ	NAMI	-	

. #TT 1 DD/

		,41111110
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-05	
Level: (low/med) LOW	Date Received: 10/06/2000	5
% Solids: 70.4		
Concentration Units (ug/L or mg/kg dry weight): M	1G/KG	

CAS No.	Analyte	Concentration	С	Q	М	]
7429-90-5	Aluminum	566			P	1
7440-36-0	Antimony	72.3			P	}
7440-38-2	Arsenic	167			P	}
7440-39-3	Barium	23.8	J		P	2840
7440-41-7	Beryllium	0.054	J		P	0,710
7440-43-9	Cadmium	30.8			P	]
7440-70-2	Calcium	28100			P	}
7440-47-3	Chromium	7.3		Е	P	] 丁
7440-48-4	Cobalt	2.4	J		P	)
7440-50-8	Copper	113		E	P	15
7439-89-6	Iron	12000		E	P	丁 ・
7439-92-1	Lead	2480		E	P	1717
7439-95-4	Magnesium	7190		E	P	5_
7439-96-5	Manganese	1680		E	P	1
7439-97-6	Mercury				NR	
7440-02-0	Nickel	3.4	J	E	P	5-
7440-09-7	Potassium	120	J		P	丁-
7782-49-2	Selenium	5.0	U		P	1
7440-22-4	Silver	12.2			P	
7440-23-5	Sodium	173	1	Е	P	フロンブ
7440-28-0	Thallium	3.6	U		P	
7440-62-2	Vanadium	3.1	7		P	_
7440-66-6	Zinc	5860		E	P	1
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		
<del></del>		

11/1/16

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EDV	SAMPI	FNO

MILI 1 DD7

				1/131111 /
Lab Name CHEMTECH CO	ONSULTING GROUP	Contract: EPW06047		
Lab Code: <u>CHEM</u>	Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PP2
Matrix: (soil/water) SOIL		Lab Sample ID: X4805-6	)6	
Level: (low/med) LOW	<del></del>	Date Received: 10/06/20	06	
% Solids: 19.4				
Concentration Units (ug/L o	r malka dry weight). M	IG/KG		

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	4550	1	<del></del>	P	]
7440-36-0	Antimony	239			P	]
7440-38-2	Arsenic	399			P	]
7440-39-3	Barium	163			P	]
7440-41-7	Beryllium	2.6	U		P	}
7440-43-9	Cadmium	85.7	1		P	}
7440-70-2	Calcium	89800			P	
7440-47-3	Chromium	44.5		Е	P	J
7440-48-4	Cobalt	5.0	J		Р	l
7440-50-8	Copper	523		E	P	ナ 丁
7439-89-6	Iron	23800		E	P	丁
7439-92-1	Lead	6680		E	P	ナデナ
7439-95-4	Magnesium	6250	$T^{T}$	E	P	デ
7439-96-5	Manganese	1710		E	P	丁 ニー
7439-97-6	Mercury		$\Gamma$		NR	
7440-02-0	Nickel	16.1	J	E	P	7
7440-09-7	Potassium	512	J		P	<b>ブ</b> ー
7782-49-2	Selenium	18.0	U		P	
7440-22-4	Silver	51.2			P	_
7440-23-5	Sodium	767	J.	E	P	257フレブ
7440-28-0	Thallium	12.9	U		P	
7440-62-2	Vanadium	12.7	J		P	_
7440-66-6	Zinc	17100		E	P	7
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

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### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PP8

Lab Name <u>CHEMTECH CC</u>	ONSULTING GROUP	Contract: EPW06047			
Lab Code: <u>CHEM</u>	Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PP2	
Matrix: (soil/water) SOIL		Lab Sample ID: X4805-0	7		
Level: (low/med) LOW	<del></del>	Date Received: 10/06/200	06		
% Solids: 34.3					

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	С	Q	M	}
7429-90-5	Aluminum	2340	$T \cap T$	<del> </del>	P	1
7440-36-0	Antimony	151			P	1
7440-38-2	Arsenic	190			P	1
7440-39-3	Barium	106			P	1
7440-41-7	Beryllium	0.18	J		P	1,507
7440-43-9	Cadmium	175			P	]
7440-70-2	Calcium	19400			P	]
7440-47-3	Chromium	42.4		E	P	1 5
7440-48-4	Cobalt	9.4	J		P	] _
7440-50-8	Copper	367	T	E	P	丁
7439-89-6	Iron	30400		E	P	丁
7439-92-1	Lead	5110		E	P	丁
7439-95-4	Magnesium	5000		Ē	P	<b>ナアナ</b>
7439-96-5	Manganese	1150		E	P	7
7439-97-6	Mercury				NR	
7440-02-0	Nickel	13.4		E	P	
7440-09-7	Potassium	311	J		P	5-
7782-49-2	Selenium	9.2	J		P	J-
7440-22-4	Silver	28.2			P	1458VT
7440-23-5	Sodium	293	J	E	P	1458VJ
7440-28-0	Thallium	2.3	J		P	丁-
7440-62-2	Vanadium	9.7	J		P	•
7440-66-6	Zinc	12900		Ē	P	ナ
57-12-5	Cyanide				NR	

L		
Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

15.3

### IA-IN INORGANIC ANALYSIS DATA SHEET

<b>EPA</b>	C.	Δλ	/PI	F	NO
டா	. 74		и		110

MH1PP9

Lab Name CHEMTECH CO	ONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	<del></del>	Lab Sample ID: X4805-0	8
Level: (low/med) LOW		Date Received: 10/06/200	6
% Solids: 18.8			

Concentration Units (ug/L or mg/kg dry weight): MG/KG

7440-66-6

57-12-5

Zinc

Cyanide

CAS No. Analyte Concentration  $\mathbf{C}$ Q M 7429-90-5 Aluminum 3180 P 7440-36-0 Antimony 127 P 7440-38-2 400 P Arsenic P 7440-39-3 Barium 153 2-1660 2.70 7440-41-7 P Beryllium 0.25 J P 7440-43-9 Cadmium 125 7440-70-2 Calcium 9830 P 7440-47-3 101 Е P Chromium 7440-48-4 25.1 P Cobalt J ナナナナナ 7440-50-8 Copper 287 E P 7439-89-6 36700 P Iron E 7439-92-1 P 4540 Lead E P 7439-95-4 Magnesium 3210 E 7439-96-5 P Manganese 2060 E 7439-97-6 Mercury NR 47.3 7440-02-0 Nickel E P P 7440-09-7 Potassium 656 J 7782-49-2 Selenium 18.4 Ū P 7440-22-4 Silver 26.3 P 1660U T 7440-23-5 Sodium 595 E P J P 7440-28-0 Thallium 13.2 Ū 7440-62-2 11.5 P Vanadium

E

P

NR

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

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LT 11/17/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHIPOO

		MH1PQ0
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDC	G No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-09	
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>
% Solids: 71.9		
Concentration Units (ug/L or mg/kg dry weight): N	/IG/KG	

CAS No.	Analyte	Concentration	С	Q	М	j
7429-90-5	Aluminum	604	T		P	}
7440-36-0	Antimony	116			P	
7440-38-2	Arsenic	110			P	
7440-39-3	Barium	25.3	J		P	27.80
7440-41-7	Beryllium	0.055	J		P	0.6945
7440-43-9	Cadmium	57.8			P	
7440-70-2	Calcium	26700			P	
7440-47-3	Chromium	6.9		E	P	J
7440-48-4	Cobalt	6.4	J		P	
7440-50-8	Copper	194		E	P	丁
7439-89-6	Iron	27700		E	P	ア
7439-92-1	Lead	2940		E	P	アナアナ
7439-95-4	Magnesium	8390		E	P	5_
7439-96-5	Manganese	1110		E	P	<b>ブ</b>
7439-97-6	Mercury				NR	
7440-02-0	Nickel	4.3	J	E	P	5.6UJ
7440-09-7	Potassium	162	J		P	5.6U J 695V
7782-49-2	Selenium	7.2			P	5-
7440-22-4	Silver	20.3			P	
7440-23-5	Sodium	83.2	J	E	P	645015
7440-28-0	Thallium	3.4	U		P	UT-
7440-62-2	Vanadium	3.2	J		P	
7440-66-6	Zinc	8520		ED	P	T
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

CT11/27/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PO1

		MILLI QI
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-16	0
Level: (low/med) LOW	Date Received: 10/06/200	6
% Solids: 12.3		
Concentration Units (ug/L or mg/kg dry weight): M	/IG/KG	

CAS No.	Analyte	Concentration	С	Q	М	}
7429-90-5	Aluminum	5430			P	1
7440-36-0	Antimony	35.1	J		P	1
7440-38-2	Arsenic	134			P	1
7440-39-3	Barium	162	J		P	1634
7440-41-7	Beryllium	4.1	U		P	1
7440-43-9	Cadmium	23.9			P	1
7440-70-2	Calcium	11400			P	]
7440-47-3	Chromium	329		E	P	グ
7440-48-4	Cobalt	9.9	J		P	1
7440-50-8	Соррег	107		E	P	T
7439-89-6	Iron	29300		Е	P	ア
7439-92-1	Lead	1120		E	P	ア
7439-95-4	Magnesium	3100	J	E	P	ナナナナ
7439-96-5	Manganese	2110		Е	P	1 ア
7439-97-6	Mercury				NR	<b>.</b>
7440-02-0	Nickel	113		E	P	1
7440-09-7	Potassium	1050	J		P	40650
7782-49-2	Selenium	28.5	U		P	
7440-22-4	Silver	9.0			P	
7440-23-5	Sodium	384	1	E	P	40650
7440-28-0	Thallium	20.3	U		Р	
7440-62-2	Vanadium	13.2	J		P	
7440-66-6	Zinc	3590		E	P	
57-12-5	Cyanide				NR	
		<u> </u>			1	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

LT11/17/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

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		WIHIPQ2
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG No	o.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-11	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 7.8		
Concentration Units (ug/L or mg/kg dry weight): M	IG/KG	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	1490	T	·	P	
7440-36-0	Antimony	399			P	]
7440-38-2	Arsenic	428			P	)
7440-39-3	Barium	55.4	J		P	256U
7440-41-7	Beryllium	6.4	U		P	}
7440-43-9	Cadmium	285			P	
7440-70-2	Calcium	23700			P	1
7440-47-3	Chromium	36.5		E	P	ナ
7440-48-4	Cobalt	13.2	J		P	
7440-50-8	Copper	512		E	P	丁
7439-89-6	Iron	23900		E	P	丁
7439-92-1	Lead	5440		Е	P	1
7439-95-4	Magnesium	1750	J	E	P	トート
7439-96-5	Manganese	892		E	P	7
7439-97-6	Mercury				NR	
7440-02-0	Nickel	16.0	J	É	P	51,3UT
7440-09-7	Potassium	480	J		P	34100
7782-49-2	Selenium	44.9	U		P	
7440-22-4	Silver	14.1			P	
7440-23-5	Sodium	1060	J	E	P	64100
7440-28-0	Thallium	47.2			P	ブー
7440-62-2	Vanadium	6.5	J		P	_
7440-66-6	Zinc	21800		Е	P	T
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

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### 1A-IN INORGANIC ANALYSIS DATA SHEET

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Lab Name CHEMTECH CONSUL	TING GROUP	Contract: EPW06047		<u> </u>	_
Lab Code: <u>CHEM</u> Case N	No.: 35810	NRAS No.:	SDG No	o.: MH1PP2	
Matrix: (soil/water) SOIL		Lab Sample ID: X4805-1	2		
Level: (low/med) LOW		Date Received: 10/06/200	6	<del></del>	
% Solids: 36.7					
Concentration Units (ug/L or mg/kg	g dry weight <u>): MG</u>	G/KG			

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	3360	T		P	]
7440-36-0	Antimony	123			P	]
7440-38-2	Arsenic	219	7		P	
7440-39-3	Barium	103			P	]
7440-41-7	Beryllium	0.24	J		P	1,460-1,40
7440-43-9	Cadmium	44.4			P	
7440-70-2	Calcium	11100			P	}
7440-47-3	Chromium	27.2		E	P	T
7440-48-4	Cobalt	14.2			P	_
7440-50-8	Copper	552		E	P	T
7439-89-6	Iron	22300		E	P	丁
7439-92-1	Lead	4750		E	P	一
7439-95-4	Magnesium	3800		Ē	P	产
7439-96-5	Manganese	2370		E	P	T
7439-97-6	Mercury				NR	_·
7440-02-0	Nickel	12.9		E	P	T
7440-09-7	Potassium	607	J		P	1.3620
7782-49-2	Selenium	9.5	U		P	
7440-22-4	Silver	30.6			P	
7440-23-5	Sodium	376	J	E	P	136205
7440-28-0	Thallium	2.1	J		P	<b>ブー</b>
7440-62-2	Vanadium	10.8	J		P	
7440-66-6	Zinc	10900		E	P	T
57-12-5	Cyanide				NR	
						•

Color Before: BI	ROWN	Clarity Before:		Texture: MEDI
Color After: YEI	LLOW	Clarity After:	<del></del>	Artifacts:
Comments:				

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### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PO4

•		
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<del></del>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-1	3
Level: (low/med) LOW	Date Received: 10/06/200	96
% Solids: 44.0		
Concentration Units (ug/L or mg/kg dry weight): M	IG/KG	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	2640	T		P	
7440-36-0	Antimony	73.2			P	
7440-38-2	Arsenic	97.5			P	
7440-39-3	Barium	90.1			P	
7440-41-7	Beryllium	0.14	1		P	1+1+10- 1,10
7440-43-9	Cadmium	33.0			P	
7440-70-2	Calcium	8180			P	
7440-47-3	Chromium	15.4		E	P	<b>ナ</b>
7440-48-4	Cobalt	5.3	J		P	
7440-50-8	Copper	196		E	P	ア
7439-89-6	Iron	9210		E	P	<b>ブ</b>
7439-92-1	Lead	2570		E	P	ナナ
7439-95-4	Magnesium	2680		E	P	工
7439-96-5	Manganese	643		E	P	<b>う</b>
7439-97-6	Mercury				NR	_
7440-02-0	Nickel	8.3	J	E	P	9,1UT 1136U
7440-09-7	Potassium	499	J		P	11360
7782-49-2	Selenium	8.0	Ū		P	
7440-22-4	Silver	19.9			P	سبس،
7440-23-5	Sodium	193	J	E	P	1136 LIT
7440-28-0	Thallium	5.7	U		P	
7440-62-2	Vanadium	8.2	J		P	
7440-66-6	Zinc	5450		E	P	丁
57-12-5	Cyanide				NR	• .
			1			

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

### 1A-IN INORGANIC ANALYSIS DATA SHEET

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EPA	SAL	MPL	Æ	NO

MH1PO5

		Milli Q5
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID <u>: X4805-1</u>	4
Level: (low/med) LOW	Date Received: 10/06/200	06
% Solids: 68.1		
Concentration Units (ug/L or mg/kg dry weight): N	//G/KG	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	3100	1		P	1
7440-36-0	Antimony	8.5	J		P	1
7440-38-2	Arsenic	24.6	1		P	}
7440-39-3	Barium	97.2			P	1
7440-41-7	Beryllium	0.20	J		P	0.730
7440-43-9	Cadmium	8.5			P	1
7440-70-2	Calcium	7250			P	}
7440-47-3	Chromium	9.8		E	P	ー
7440-48-4	Cobalt	3.4	J		P	
7440-50-8	Copper	61.1		E	P	<b>ア</b>
7439-89-6	Iron	8010		E	P	エティー
7439-92-1	Lead	550		E	P	ナ
7439-95-4	Magnesium	1760		E	P	1 二
7439-96-5	Manganese	1050		E	P	丁
7439-97-6	Mercury				NR	
7440-02-0	Nickel	6.7		E	P	5
7440-09-7	Potassium	605	J		P	7340
7782-49-2	Selenium	5.1	U		P	
7440-22-4	Silver	4.0			P	
7440-23-5	Sodium	177	J	E	P	734UT
7440-28-0	Thallium	3.7	U		P	
7440-62-2	Vanadium	7.5			P	
7440-66-6	Zinc	2110		Е	P	T
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

J11/2/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PO6

Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	{	
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No	.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-1	5	<del></del>
Level: (low/med) LOW	Date Received: 10/06/20	06	
% Solids <u>: 20.0</u>			
Concentration Units (ug/L or mg/kg dry weight): N	MG/KG		

CAS No.	Analyte	Concentration	С	Q	M	}
7429-90-5	Aluminum	6520		<del></del>	P	
7440-36-0	Antimony	128			P	]
7440-38-2	Arsenic	185			P	}
7440-39-3	Barium	117			P	}
7440-41-7	Beryllium	3.9			P	
7440-43-9	Cadmium	59.3			P	}
7440-70-2	Calcium	10300			P	
7440-47-3	Chromium	17.5		E	P	ア
7440-48-4	Cobalt	18.6	J		P	ĺ
7440-50-8	Copper	411		E	P	ナ
7439-89-6	Iron	40200		E	P	5
7439-92-1	Lead	4250		E	P	ーデ
7439-95-4	Magnesium	3130		E	P	577
7439-96-5	Manganese	465		E	P	ブ
7439-97-6	Mercury	······			NR	
7440-02-0	Nickel	39.9		Е	P	T
7440-09-7	Potassium	563	J	·····	P	25000
7782-49-2	Selenium	5.1	J		P	<b>J</b> -
7440-22-4	Silver	19.3			P	25000
7440-23-5	Sodium	835	j	E	P	25000
7440-28-0	Thallium	12.5	U		P	
7440-62-2	Vanadium	16.9	J		P	_
7440-66-6	Zinc	13800		E	P	J.
57-12-5	Cyanide				NR	•

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

J11/27/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PO7

			MHITQ
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	ł	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-1	6	· · · · · · · · · · · · · · · · · · ·
Level: (low/med) LOW	Date Received: 10/06/200	06	
% Solids: 18.0			
Concentration Units (ug/L or mg/kg dry weight): N	//G/KG		

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	11500			P	
7440-36-0	Antimony	104			P	
7440-38-2	Arsenic	237			P	
7440-39-3	Barium	153	1		P	
7440-41-7	Beryllium	8.4			P	
7440-43-9	Cadmium	77.4			P	
7440-70-2	Calcium	19400			P	
7440-47-3	Chromium	28.0		E	P	<b>丁</b>
7440-48-4	Cobalt	27.8			P	_
7440-50-8	Copper	543		Ē	P	ナ
7439-89-6	Iron	91800		E	P	アアナー
7439-92-1	Lead	3990		É	P	テ
7439-95-4	Magnesium	4870		E	P	テ
7439-96-5	Manganese	970	1	Е	Р	<b>デ</b>
7439-97-6	Mercury		1		NR	
7440-02-0	Nickel	45.6		Ë	P	T
7440-09-7	Potassium	1190	J		P	2778
7782-49-2	Selenium	13.0	J		P	7-1
7440-22-4	Silver	24.3	1		P	
7440-23-5	Sodium	5150		E	P	ナー
7440-28-0	Thallium	4.9	1		P	丁ー
7440-62-2	Vanadium	25.8	J		P	_
7440-66-6	Zinc	14100		E	P	T
57-12-5	Cyanide				NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

11/27/06

# 1A-IN INORGANIC ANALYSIS DATA SHEET

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		MH1PQ8
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: CHEM Case No.: 35810	NRAS No.: SDG N	Io.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-17	
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>
% Solids: 43.0		
Concentration Units (ug/L.or mg/kg dry weight): N	AG/KG	

CAS No.	Analyte	Concentration	С	Q	М	j
7429-90-5	Aluminum	11900	1		P	}
7440-36-0	Antimony	14.0	U		P	
7440-38-2	Arsenic	13.5	1		P	1
7440-39-3	Barium	306	1		P	}
7440-41-7	Beryllium	0.70	J		P	4440-120
7440-43-9	Cadmium	1.4	T		P	1
7440-70-2	Calcium	16400			P	
7440-47-3	Chromium	1200	1	E	P	1 ア
7440-48-4	Cobalt	11.0	J		P	1
7440-50-8	Copper	33.5		E	P	17
7439-89-6	Iron	21000		E	P	ー
7439-92-1	Lead	185		E	P	ア
7439-95-4	Magnesium	5410		E	P	于
7439-96-5	Manganese	599		E	P	ケ
7439-97-6	Mercury				NR	_
7440-02-0	Nickel	128		E	P	<b>ア</b>
7440-09-7	Potassium	2940			P	
7782-49-2	Selenium	8.1	UG		P	
7440-22-4	Silver	2.3	U		P	,
7440-23-5	Sodium	975	J	E	P	116305
7440-28-0	Thallium	5.8	U		P	
7440-62-2	Vanadium	39.0			P	_
7440-66-6	Zinc	303		Ė	P	1
57-12-5	Cyanide				NR	
						1

Color After: YELLOW	Clarity After:	
	Clarity Attor.	Artifacts:
Comments:		

CT11/27/06

# 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

		Į.	MH1PQ9
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	ί	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: S	SDG No	.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-20		
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>	
% Solids: 45.9			
Concentration Units (ug/L or mg/kg dry weight): N	/IG/KG		

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	647	T		P	}
7440-36-0	Antimony	207			P	Ì
7440-38-2	Arsenic	466	1 1		P	
7440-39-3	Barium	105			P	1.10
7440-41-7	Beryllium	0.096	J		P	<b>ブナ</b>
7440-43-9	Cadmium	41.2			P	
7440-70-2	Calcium	20500			P	]
7440-47-3	Chromium	67.3		E	P	ア
7440-48-4	Cobalt	11.0			P	
7440-50-8	Соррег	358	<b>1</b> - 1	E	P	T
7439-89-6	lron	101000		E	P	ケ
7439-92-1	Lead	9090		E	P	ナファ
7439-95-4	Magnesium	7330		E	P	丁
7439-96-5	Manganese	1070		E	P	丁
7439-97-6	Mercury				NR	•
7440-02-0	Nickel	25.7		E	P	10890
7440-09-7	Potassium	231	J		P	10890
7782-49-2	Selenium	34.7			P	<b>ブ</b>
7440-22-4	Silver	44.9			P	
7440-23-5	Sodium	218	J	E	P	1089UT
7440-28-0	Thallium	7.8			P	<b>ブ</b> ー
7440-62-2	Vanadium	4.0	J		P	
7440-66-6	Zinc	6000		Ē	P	5
57-12-5	Cyanide				NR	
				_		

Color Before: BROWN	Clarity Before:	Texture: <u>MEDIUM</u>
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

FORM IA-IN

(T1) / 10 6
ILM05.3

### 1A-IN INORGANIC ANALYSIS DATA SHEET

<b>EPA</b>	SA	MPI	E.	NO

MILLED

		MHIPRO
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: S	DG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-21	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids <u>: 52.4</u>		
Concentration Units (ug/L or mg/kg dry weight): N	MG/KG	

CAS No.	Analyte	Concentration	С	Q	М	}
7429-90-5	Aluminum	2050	T - T	<del></del>	P	1
7440-36-0	Antimony	88.8	$\top$		P	1
7440-38-2	Arsenic	204			P	1
7440-39-3	Barium	79.8			P	ر ا
7440-41-7	Beryllium	0.19	J		P	0.9505
7440-43-9	Cadmium	44.5			P	]
7440-70-2	Calcium	22400			P	]
7440-47-3	Chromium	28.8		E	P	] ア
7440-48-4	Cobalt	8.4	J		P	]_
7440-50-8	Copper	329		E	P	15
7439-89-6	Iron	27400		E	Р	] ケ
7439-92-1	Lead	4300		Е	P	ア
7439-95-4	Magnesium	5710		E	P	テナナ
7439-96-5	Manganese	1640		E	P	ナ
7439-97-6	Mercury				NR	_
7440-02-0	Nickel	12.2		E	P	1
7440-09-7	Potassium	465	J		P	454U
7782-49-2	Selenium	5.1	J		P	<b>ブー</b>
7440-22-4	Silver	28.7			P	
7440-23-5	Sodium	134	J	E	P	95400
7440-28-0	Thallium	3.8	J		P	954U T- 954U T-
7440-62-2	Vanadium	7.8	J		P	_
7440-66-6	Zinc	7580		E	P	T
57-12-5	Cyanide				NR	
					T	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		
, <del></del>		

~ 11/37/86

## 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

•		MH1PR1
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PP2
Matrix: (soil/water) SOIL	Lab Sample ID: X4805-2	2
Level: (low/med) LOW	Date Received: 10/06/20	06
% Solids <u>: 61.8</u>		
Concentration Units (ug/L or mg/kg dry weight): M	//G/KG	

CAS No.	Analyte	Concentration	С	Q	М	]
7429-90-5	Aluminum	1010	T	<del></del>	P	1
7440-36-0	Antimony	15.6			P	]
7440-38-2	Arsenic	30.0			P	]
7440-39-3	Barium	43.5			P	]
7440-41-7	Beryllium	0.078	J		P	3.810
7440-43-9	Cadmium	11.5			P	]
7440-70-2	Calcium	2260			P	}
7440-47-3	Chromium	10.7		E	P	T
7440-48-4	Cobalt	3.4	J		P	]
7440-50-8	Copper	35.0		E	P	J
7439-89-6	Iron	6060		E	P	丁.
7439-92-1	Lead	572		E	P	
7439-95-4	Magnesium	795	J	E	P	J-
7439-96-5	Manganese	370		E	P	T
7439-97-6	Mercury				NR	
7440-02-0	Nickel	5.7	J	E	P	5. S. J
7440-09-7	Potassium	168	J		P	かいかし
7782-49-2	Selenium	5.7	U		P	
7440-22-4	Silver	2.8		· · · · · · · · · · · · · · · · · · ·	P	١.
7440-23-5	Sodium	88.0	J	Е	P	80401
7440-28-0	Thallium	4.0	U		P	
7440-62-2	Vanadium	6.0	)		P	_
7440-66-6	Zinc	1270		E	P	1
57-12-5	Cyanide				NR	

Color Be	efore: BROWN	Clarity Before:	Texture: MEDIUM
Color Af	ter: <u>YELLOW</u>	Clarity After:	Artifacts:
Commen	nts:		
•			

ILM05.3



# REGION VIII DATA VALIDATION REPORT INORGANIC

Case No. / TDD No.	Site N	ame	Operable Unit	
35810 / 0611-06	Lower Silver Cr	eek		
RPM/OSC Name				
Sabrina Forrest				
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region	
ChemTech Consulting Group	EPW06047	MH1PR5		

Review Assigned Date	November 16, 2006	Data Validator	Lisa Tyson
Review Completion Date	November 30, 2006	Report Reviewer	Amy Ballow

Sample ID	Matrix	Analysis
MH1PR5	Water	CLP - Total Metals
MH1PR6	]	
MH1PR7	_	
MH1PR8		
MH1PR9		
MH1PS0		
MH1PS1		
MH1PS2		
MH1PS3		
MH1PS4		
MH1PS5		
MH1PS6		
MHIPS7		
MH1PS8		

Data Validation Report

Sample ID	Matrix	Analysis
MH1PS9	Water	CLP - Total Metals
МН1РТ0		
MH1PT1		·
MH1PT2		
MH1PT3		
MH1PT4		



### DATA QUALITY STATEMENT

()	Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
() (X)	Data are UNACCEPTABLE according to EPA Functional Guidelines.  Data are acceptable with QUALIFICATIONS noted in review.
Telepho	ne/Communication Logs Enclosed? Yes NoX
CLP Prattentio	oject Officer Attention Required? Yes No X If yes, list the items that require n:

#### INORGANIC DATA VALIDATION REPORT

### **REVIEW NARRATIVE SUMMARY**

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in <u>each</u> of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 35810, SDG No. MH1PR5, consisted of 20 water samples for CLP total metals by ICP-AES (ILM05.3). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
All samples	Antimony Beryllium	U	Laboratory blank contamination	7
MH1PR7, MH1PR8, MH1PR9, MH1PS0, MH1PS1, MH1PS2, MH1PS3, MH1PS4, MH1PS5, MH1PS6, MH1PS8, MH1PS9, MH1PT1, MH1PT2, MH1PT3, MH1PT4	Arsenic			
All samples except MH1PT1	Barium			
MH1PR5, MH1PR7, MH1PR8, MH1PR9, MH1PS0, MH1PS1, MH1PS2, MH1PS3, MH1PS4, MH1PS5, MH1PS6, MH1PS7, MH1PS8, MH1PS9, MH1PT0, MH1PT2, MH1PT3, MH1PT4	Copper			
МН1РТ3	Iron			
MH1PR5, MH1PR7, MH1PR8, MH1PR9, MH1PS1, MH1PS2, MH1PS4, MH1PS5, MH1PS6, MH1PS7, MH1PS9, MH1PT0, MH1PT2	Lead			
MH1PR5, MH1PR7, MH1PR8, MH1PR9, MH1PS0, MH1PS1, MH1PS2, MH1PS3, MH1PS4, MH1PS5, MH1PS6, MH1PS7, MH1PS8	Nickel			



Reason for Review Sample ID **Oualifiers** Elements Qualification Section MH1PR5, MH1PR7, MH1PR8, Potassium U Laboratory blank 7 MH1PR9, MH1PS0, MH1PS1, contamination MH1PS2, MH1PS3, MH1PS4, MH1PS7, MH1PS8, MH1PT2, MH1PT3, MH1PT4 MH1PS4 Silver MH1PS4, MH1PS8 Aluminum J-Negative blank contamination MH1PR5 Selenium 8 MH1PR6, MH1PS4, MH1PT1 Selenium UJ Interference check Thallium exceeded criteria, negative interference Beryllium\* J+ Interference check exceeded criteria, positive interference MH1PS4, MH1PT1 Arsenic\* MH1PS4 Potassium\* Silver\* All samples Aluminum J/UJ Serial dilution %D 14 Potassium greater than 10% and Sodium original sample value at Zinc least 50\*IDL

<sup>\*</sup> The results for beryllium in samples MH1PR6, MH1PS4, and MH1PT1; arsenic in samples MH1PS4 and MH1PT1; and potassium and silver in sample MH1PS4 were not assigned bias because the results were qualified as non-detected for blank contamination.

4.

Comments:

1. **DELIVERABLES** All deliverables were present as specified in the Statement of Work. Yes\_X\_ No\_\_\_\_ Comments: None. 2. HOLDING TIMES AND PRESERVATION CRITERIA All technical holding times and preservation criteria were met. Yes X No The samples were analyzed within holding times and were received within the Comments: recommended temperature range of  $4 \pm 2$  °C. Chain-of-custody (COC), summary forms, and raw data were evaluated. 3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS Initial instrument calibrations were performed according to SOW requirements. Yes X No\_\_\_\_ Comments: None. The instruments were calibrated daily and each time an analysis run was performed. Yes X No\_\_\_\_ Comments: None. The instruments were calibrated using one blank and the appropriate number of standards. Yes\_X\_ No\_\_\_\_ Comments: None. FORM 1 - SAMPLE ANALYSIS RESULTS Sample analyses were entered correctly on Form Is. No Yes\_X

MH1PR5m Inorganic - 6

The result for zinc in sample MH1PR6 was reported from a 2x dilution.



6.

7.

### 5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

	The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.					
Yes_X_	No					
Comments:	None.					
	n verification results were within 90-110% recovery for metals, 85-115% for 80-120% for mercury.					
Yes_X_	No					
Comments:	None.					
The continuing	g calibration standards were run at 10% frequency or every two hours.					
Yes_X_	No					
Comments:	None.					
FORM 2B - C	CRQL CHECK STANDARD					
run and every	Standards (CRI) were analyzed at the beginning and end of each sample analysis 20 analytical samples, immediately preceding the interferences check sample not before ICV analysis.					
Yes_X_	No					
Comments:	None.					
The CRI recov	veries were within 70-130% (50-150% for Sb, Pb, and Tl) for required elements.					
Yes_X_	No					
Comments:	None.					
FORM 3 - BL	ANKS					
The initial and requirements.	continuing calibration blanks (ICB and CCB, respectively) met SOW					
Yes_X_	No					
Comments:	None.					

The continuing calibration blanks were run at 10% frequency.

Yes\_X\_ No\_\_\_

Comments: Continuing calibration blanks were run every 10 samples.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No No

Comments: None.

All analyzed blanks were free of contamination.

Yes\_\_\_ No\_X\_

Comments: The following table lists the blanks with contamination that resulted in sample

qualification, elements present, affected samples, and data qualifiers:

#### **Blank Contaminants**

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
РВ	Aluminum	-43.54	MH1PS4 MH1PS8	<crql< td=""><td>J-</td></crql<>	J-
CCB4	Selenium	-11.745	MH1PR5		
РВ	Antimony	3.355	All samples		60.0 U
PB	Beryllium	0.135			5.0 U
CCB4 CCB6 CCB7 CCB8	Arsenic	8.835 4.82 6.28 6.47	MHIPR7 MHIPR8 MHIPR9 MHIPS0 MHIPS1 MHIPS2 MHIPS3 MHIPS4 MHIPS5 MHIPS6 MHIPS8 MHIPS8 MHIPS9 MHIPT1 MHIPT2 MHIPT3 MHIPT4	13.6 <crql 13.3 <crql 11.3 <crql 20.4 20.3 10.1 <crql 11.8 <crql 12.3 13.9 <crql <crql< td=""><td>U 10.0 U U 10.0 U U 10.0 U U U 10.0 U U 10.0 U U 10.0 U</td></crql<></crql </crql </crql </crql </crql </crql 	U 10.0 U U 10.0 U U 10.0 U U U 10.0 U U 10.0 U U 10.0 U
PB	Barium	0.565	All samples except MH1PT1	<crql< td=""><td>200 U</td></crql<>	200 U
CCB8	lron	42.420	мн1РТ3	100	U



URS Operating Services, Inc.

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
РВ	Соррег	0.945	MHIPR5 MHIPR7 MHIPR8 MHIPR9 MHIPS0 MHIPS1 MHIPS2 MHIPS3 MHIPS4 MHIPS5 MHIPS5 MHIPS6 MHIPS7 MHIPS7 MHIPS8 MHIPS7 MHIPS9 MHIPT0 MHIPT13 MHIPT13 MHIPT14	<crql< td=""><td>25.0 U</td></crql<>	25.0 U
PB	Lead	5.32	MHIPR5 MHIPR8 MHIPR9 MHIPS1 MHIPS2 MHIPS4 MHIPS5 MHIPS6 MHIPS7 MHIPS9 MHIPT0 MHIPT0	20.7 <crql <crql 10.5 <crql 16.0 23.1 22.1 <crql 14.0 11.9 17.1</crql </crql </crql </crql 	U 10.0 U 10.0 U 10.0 U U 10.0 U U U 10.0 U U
CCB5	Nickel	0.825	MHIPR5 MHIPR7 MHIPR8 MHIPR9 MHIPS0 MHIPS1 MHIPS2 MHIPS3 MHIPS4 MHIPS5 MHIPS5 MHIPS6 MHIPS7 MHIPS8	<crql< td=""><td>40.0 U</td></crql<>	40.0 U
PB	Potassium	77.445	MHIPRS MHIPR7 MHIPR8 MHIPR9 MHIPS0 MHIPS1 MHIPS2 MHIPS3 MHIPS4 MHIPS7 MHIPS7 MHIPS8 MHIPT2 MHIPT3 MHIPT3		5000 U
ICB	Silver	2.015	MH1PS4		10.0 ປ



### 8. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but <u>not</u> prior to the ICV.

Yes_X_	No
Comments:	None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within +2x the CRQL.

YesZ	<u>&lt;</u>	No

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes\_\_\_ No\_X

Comments: The following sample results were qualified because the results for calcium were

greater than the ICSA values and the absolute values of the associated elements

were greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Selenium	-16.8 / -5.1	4.7	MH1PR6, MH1PS4, MH1PT1	UJ
Thallium	-19.8 / -1.2	6.7		
Beryllium	0.55 / 0.69	0.063		J+
Arsenic	5.2	4.9	MH1PS4, MH1PT1	]
Potassium	164	19.1	MH1PS4	}
Silver	1.5	1.1		

The results for beryllium in samples MH1PR6, MH1PS4, and MH1PT1; arsenic in samples MH1PS4 and MH1PT1; and potassium and silver in sample MH1PS4 were not assigned bias because the results were qualified as non-detected for blank contamination.

10.

11.

### 9. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

		ras analyzed with every twenty or fewer samples of a similar matrix, or group (whichever is more frequent).
Yes_X_	No	NA
Comments:	None.	
The percent i	recoveries (%	%Rs) were calculated correctly.
Yes_X_	No	NA
Comments:	None.	
-		thin the range of 75-125% (an exception is granted where the sample es the spike concentration).
Yes_X_	No	
Comments:	None.	
Yes	•	oike amount added, exception: Ag, Hg).  NA_X
Comments:		11A_A_
Duplicate san	nple analysis	E SAMPLE ANALYSIS  s was performed with every twenty or fewer samples of a similar matrix y group (whichever is more frequent).
Yes <u>X</u>	No	NA
Comments:	None.	
The RPDs we	re calculated	d correctly.
Yes_X_	No	NA
Comments:	None.	



	-		greater than five times the CRQL, RPDs were within ±20% (limits of nents/tailings samples).
	Yes_X_	No	NA
	Comments:	None.	
	_		less than five times the CRQL, duplicate analysis results were within CRQL (two times CRQL for soils).
	Yes_X_	No	NA
	Comments:	None.	
12.	ICP-MS		
	Comments:	ICP-MS a	nalyses were not performed on these samples.
13.	FORM 7 - L	ABORATO	RY CONTROL SAMPLE
			apple (LCS) was prepared and analyzed with every twenty or fewer s, or one per sample delivery group (whichever is more frequent).
	Yes_X_	No	
	Comments:	None.	
	All results we	re within con	trol limits.
	Yes X	No	
	Comments:	Results we	ere within laboratory control limits.
14.	FORM 8 - IC	P-AES QC	
			med for ICP analysis with every twenty or fewer samples of a similar lelivery group, whichever is more frequent.
	Yes_X_	No	
	Comments:	None.	



	The serial di	lution was without in	terference problems as defined by t	he SOW.		
	Yes	No_X_				
	Comments:	The following ser result was at least	ial dilution %Ds were greater than 50* the MDL:	10% and the original sample		
	Element	% Difference	Samples Affected	Qualifiers		
Aluı	ninum	22%	All samples	J/UJ		
Pota	ssium	14%				
Sodi	um	28%				
Zinc	<del></del>	11%				
15.	FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)  MDLs were provided for all elements on the target analyte list.					
	Yes_X_	No				
	Comments:	None.				
	Reported MD	DLs met SOW require	ments.			
	Comments:	None.				
16.	FORM 10 - I	NTERELEMENT (	CORRECTION FACTORS FOR	ICP		
	Interelement of	corrections for ICP w	ere reported.			
	Yes_X_	No				
	Comments:	None.				
17.		CP LINEAR RANG	SES			
	Yes_X_	No				
	Comments:	None.				



Comments:

None.

18.	FORM 12 - PREPARATION LOG				
	Information or	the preparation of samples for analysis was reported on Form 12.			
	Yes_X_	No			
	Comments:	None.			
19.	FORM 13 - ANALYSIS RUN LOG				
	A Form 13 wit	h the required information was filled out for each analysis run in the data package.			
	Yes_X_	No			
	Comments:	None.			
20.	Additional Co	mments or Problems/Resolutions Not Addressed Above			
	Yes	No_X_			

#### INORGANIC DATA QUALITY ASSURANCE REVIEW

#### Region VIII

### **DATA QUALIFIER DEFINITIONS**

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

### GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

- R Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
- J The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
- J+ The associated numerical value is an estimated quantity but the result may be biased high.
- J- The associated numerical value is an estimated quantity but the result may be biased low.
- U J The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
- N J Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
- U The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.



#### URS Operating Services, Inc.

#### **ACRONYMS**

AA Atomic Absorption

Ag Silver

CCB Continuing Calibration Blank

CCV Continuing Calibration Verification

CFR Code of Federal Regulations
CLP Contract Laboratory Program
CRA CRQL standard required for AA

CRQL Contract Required Quantitation Limit

CRI CRQL standard required for ICP

CV Cold Vapor

EPA U.S. Environmental Protection Agency
GFAA Graphite Furnace Atomic Absorption

Hg Mercury

ICB Initial Calibration Blank
ICP Inductively Coupled Plasma
ICS Interference Check Sample

ICSA Interference Check Sample (Solution A)
ICSAB Interference Check Sample (Solution AB)

ICV Initial Calibration Verification LCS Laboratory Control Sample

LRA Linear Range Verification Analysis

MDL Method Detection Limit
PDS Post Digestion Spike

QC Quality Control

RPD Relative Percent Difference RPM Regional Project Manager

RSD Percent Relative Standard Deviation

SA Spike Added

SAS Special Analytical Services
SDG Sample Delivery Group
SOW Statement of Work
SR Sample Result

SSR Spiked Sample Result

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PR5

		MILLIE
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG No	o.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID; X4829-01	<del> </del>
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	U	E	P	UT
7440-36-0	Antimony	16.2	J		P	160.0U
7440-38-2	Arsenic	46.0			P	1
7440-39-3	Barium	24.5	J		P	2000
7440-41-7	Beryllium	0.25	J		P	5.36
7440-43-9	Cadmium	4.6	J		P	1
7440-70-2	Calcium	216000			P	i
7440-47-3	Chromium	5.7	J		P	1
7440-48-4	Cobalt	1.4	J		P	1
7440-50-8	Copper	10.4	J		P	25.cc
7439-89-6	lron	1620			P	1
7439-92-1	Lead	20.7			P	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
7439-95-4	Magnesium	56900			P	}
7439-96-5	Manganese	613			P	}
7439-97-6	Mercury		1-1		NR	
7440-02-0	Nickel	7.3	1 7		P	40.00
7440-09-7	Potassium	4900	J	E	P	40.00 Succe J
7782-49-2	Selenium	6.6	J		P	5-
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	92600	1	É	P	5
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	1160	11	Ē	P	5
57-12-5	Cyanide	·			NR	İ
		<del></del>	1	<del></del>	1	İ

<del></del>		
Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

U" | 17/06 ILM05.3

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PR6

Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-02	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): I	IG/I	

	CAS No.	Analyte	Concentration	С	Q	M	
F	7429-90-5	Aluminum	1350	TT	E	P	
Г	7440-36-0	Antimony	42.0	J		P	60.07
Γ	7440-38-2		345			P	1
	7440-39-3	Barium	34.2	J		P	2000
٢	7440-41-7	Beryllium	0.77	J		P	3000
	7440-43-9	Cadmium	163			P	1
	7440-70-2	Calcium	316000			P	1
Г	7440-47-3	Chromium	4.1	J		P	
Γ	7440-48-4	Cobalt	51.7	1		P	1
_	7440-50-8	Copper	217			P	1
Γ	7439-89-6	Iron	39800	11		P	1
Γ	7439-92-1	Lead	1280			P	1
Γ	7439-95-4	Magnesium	52100			P	1
Τ	7439-96-5		2160	1		P	j
Γ	7439-97-6					NR	}
	7440-02-0	Nickel	71.6			P	
	7440-09-7	Potassium	10900		E	P	15
	7782-49-2	Selenium	35.0	U		P	5
Г	7440-22-4	Silver	10.0	U		P	1
$\vdash$	7440-23-5	Sodium	38600	1	E	P	ゴ
$\vdash$	7440-28-0	Thallium	25.0	U		P	しず
Г	7440-62-2	Vanadium	6.6	J		P	
	7440-66-6	Zinc	53000	7	ED	P	5
	57-12-5	Cyanide				NR	,
						1	ĺ
Г							1
_							,

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11 ILM05.3

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PR7

		WHIPK/
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u></u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG	No.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-03	
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): L	JG/L	

CAS No.	Analyte	Concentration	С	Q	M	}
7429-90-5	Aluminum	200	U	E	P	60,00
7440-36-0	Antimony	35.5	J		P	60,00
7440-38-2	Arsenic	13.6			P	lt
7440-39-3	Barium	46.5	J		P	acou.
7440-41-7	Beryllium	0.23	J		P	5,00
7440-43-9	Cadmium	7.6			P	]
7440-70-2	Calcium	200000			P	]
7440-47-3	Chromium	5.7	J		P	<u> </u>
7440-48-4	Cobalt	50.0	U	<del></del>	P	}
7440-50-8	Copper	14.9	J		P	2500
7439-89-6	Iron	273			P	25,00 10.00
7439-92-1	Lead	6.3	J		P	10.00
7439-95-4	Magnesium	48800			P	[
7439-96-5	Manganese	151			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	7.3	J		P	4000 J
7440-09-7	Potassium	3560	J	E	P	500015
7782-49-2	Selenium	35.0	U	·	P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	81700		E	Р	5
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.62	J		P	
7440-66-6	Zinc	2400		E	P	ブ
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/27/26 ILM05.3

## IA-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PR8

		WILLIAM IN
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-04	·
Level: (low/med) LOW	Date Received: 10/06/200	5
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	JG/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	U	Ë	P	17
7440-36-0	Antimony	34.5	J		P	60,00
7440-38-2	Arsenic	5.4	J		P	10,00
7440-39-3	Barium	44.2	J		P	2000
7440-41-7	Beryllium	0.23	J		P	5.00
7440-43-9	Cadmium	6.8			P	
7440-70-2	Calcium	187000			P	
7440-47-3	Chromium	1.7	J		P	
7440-48-4	Cobalt	50.0	U		P	,
7440-50-8	Copper	13.1	Ĵ		P	25.00
7439-89-6	Iron	461			P	,
7439-92-1	Lead	5.8	J		P	25.0U 10.0U
7439-95-4	Magnesium	45800			P	
7439-96-5	Manganese	130			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	3.8	J		P	4000
7440-09-7	Potassium	3270	J	E	P	400V
7782-49-2	Selenium	35.0	υ		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	77300		E	P	5
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.76	J		P	_
7440-66-6	Zinc	2190		E	P	7
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/27/06

ILM05.3

### IA-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHIPPQ

				MHIPKS
Lab Name CHEMTECH CONSULTING GRO	<u>)UP</u>	Contract: EPW06047	l	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>		NRAS No.:	SDG No	o.: MH1PR5
Matrix: (soil/water) WATER		Lab Sample ID: X4829-	05	
Level: (low/med) LOW		Date Received: 10/06/20	006	
% Solids: 0.0				
Concentration Units (ug/L or mg/kg dry weigh	ıt <u>): U</u>	IG/L		

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	200	U	E	P	UT
7440-36-0	Antimony	19.6	. J		P	1000
7440-38-2	Arsenic	13.3			P	
7440-39-3	Barium	47.4	J		Р	2000
7440-41-7	Beryllium	0.26	J		P	5.00
7440-43-9	Cadmium	5.0	U		P	]
7440-70-2	Calcium	155000			P	1
7440-47-3	Chromium	5.5	J		P	
7440-48-4	Cobalt	50.0	U		P	<b>}</b> .
7440-50-8	Copper	6.6	J		P	25.00
7439-89-6	Iron	232			P	}
7439-92-1	Lead	4.0	J		P	25,0V
7439-95-4	Magnesium	38700			P	]
7439-96-5	Manganese	56.1	T		P	
7439-97-6	Mercury				NR	,
7440-02-0	Nickel	7.2	]		P	40,00
7440-09-7	Potassium	3310	J	E	P	40.00/5 >000/5
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	73700		E	P	<b>ブ</b>
7440-28-0	Thallium	25.0	U		P	ı
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	334		E	P	5
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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ILM05.3

## 1A-IN INORGANIC ANALYSIS DATA SHEET

			_	
<b>EPA</b>	~ ~	1 7717	_	N 1/2
HPA	<b>\</b> Δ	N/PI	н	1011

			MILLIFSU	
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	1	<u> </u>	-
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No	o.: MH1PR5	
Matrix: (soil/water) WATER	Lab Sample ID: X4829-0	6		
Level: (low/med) LOW	Date Received: 10/06/200	)6	<del></del>	
% Solids <u>: 0.0</u>				
Concentration Units (ug/L or mg/kg dry weight): U	)G/L			

CAS No.	Analyte	Concentration	С	Q	M	_
7429-90-5	Aluminum	200	U	E	P	UT
7440-36-0	Antimony	20.1	J		P	60.04
7440-38-2	Arsenic	7.3	J		P	60.00 10,00 2000
7440-39-3	Barium	44,6	J		P	2000
7440-41-7	Beryllium	0.24	J		P	5,00
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	154000			P	
7440-47-3	Chromium	12.9			P	·
7440-48-4	Cobalt	50.0	U		P	
7440-50-8	Copper	8.6	J		P	25.00
7439-89-6	Iron	239			Р	
7439-92-1	Lead	10.0	U		P	
7439-95-4	Magnesium	38200			P	
7439-96-5	Manganese	82.5	1		P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	5.8	J		P	40.00 50005
7440-09-7	Potassium	3170	J	Ē	P	5000003
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	υ		P	
7440-23-5	Sodium	71200		E	P	J
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.62	J		P	_
7440-66-6	Zinc	359		E	P	7
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/27/06 ILM05.3

## 1A-IN INORGANIC ANALYSIS DATA SHEET

<b>EPA</b>	C	TCINA	Е	NIC
EPA	3.F	VIVII-I	JC.	INC.

			MH1PS1
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	1	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No	.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-07	<u>'</u>	
Level: (low/med) LOW	Date Received: 10/06/200	6	<del></del>
% Solids: 0.0			
Concentration Units (until or matter day weight): 116	СЛ		

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	U	E	P	07 60,00
7440-36-0	Antimony	46.7	J		P	CC,CU
7440-38-2	Arsenic	11.3	T		P	V
7440-39-3	Barium	37.2	J		P	2000
7440-41-7	Beryllium	0.24	1		P	500
7440-43-9	Cadmium	9.0			P	1
7440-70-2	Calcium	165000			P	
7440-47-3	Chromium	14.0			P	
7440-48-4	Cobalt	50.0	U		P	
7440-50-8	Copper	11.9	J		P	2500
7439-89-6	Iron	263			P	
7439-92-1	Lead	10.5			P	U
7439-95-4	Magnesium	40200			P	
7439-96-5	Manganese	130			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	8.1	J		P	40,00
7440-09-7	Potassium	2480	J	E	P	40,000 5000
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	68500		E	P	5
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.60	J		P	
7440-66-6	Zinc	2290		E	P	T
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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ILM05.3

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA	~ .		*	<b>1</b>
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MH1PS2

		1.1.2.3.1.0.2
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG	No.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-08	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L.or mg/kg dry weight): 11	IG/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	U	E	P	UT
7440-36-0	Antimony	45.5	J		P	60.00
7440-38-2	Arsenic	8.5	J		P	10,00
7440-39-3	Barium	45.6	J		P	2000
7440-41-7	Beryllium	0.21	]		P	5,00
7440-43-9	Cadmium	4.0	J		P	]
7440-70-2	Calcium	223000			P	]
7440-47-3	Chromium	48.1			P	]
7440-48-4	Cobalt	50.0	U		P	}
7440-50-8	Copper	10.8	]		P	2504
7439-89-6	Iron	648			P	
7439-92-1	Lead	7.4	J		P	10,00
7439-95-4	Magnesium	54000			P	
7439-96-5	Manganese	152			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	17.7	J		P	40.00
7440-09-7	Potassium	2620	J	Ē	P	40.00 Scool
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	82800		Е	P	7
7440-28-0	Thallium	25.0	Ü		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	1420		E	P	7
57-12-5	Cyanide				NR	
					1	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

ILM05.3

## 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

		WHIPSS
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG N	o.: MHIPR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-09	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	G/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	200	Ū	E	P	UT.
7440-36-0	Antimony	41.0	J		P	60.0U
7440-38-2	Arsenic	20.4			P	l U .
7440-39-3	Barium	45.9	J		P	2000
7440-41-7	Beryllium	0.25	J		P	5.00
7440-43-9	Cadmium	5.6			P	
7440-70-2	Calcium	212000			P	
7440-47-3	Chromium	5.7	J		P	
7440-48-4	Cobalt	50.0	υ		P	
7440-50-8	Соррег	21.3	J		P	2500
7439-89-6	Iron	1180			P	
7439-92-1	Lead	92.0			P	
7439-95-4	Magnesium	53000			P	
7439-96-5	Manganese	261			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	33.9	J		P	40:00 5000
7440-09-7	Potassium	2930	J	E	P	50000
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	85500		E	P	丁 ニー
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	1890		E	P	5
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1DCA

			)	. ==
Lab Name CHEMTECH CO	NSULTING GROUP	Contract: EPW06047	1	
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No	.: MH1PR5
Matrix: (soil/water) WATER		Lab Sample ID: X4829-1	0	
Level: (low/med) LOW		Date Received: 10/06/200	6	
% Solids: 0.0				
Concentration Units (ug/L or	mg/kg dry weight): U(	G/L		

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	71.1	J	E	P	丁-
7440-36-0	Antimony	6.6	J		P	60,00
7440-38-2	Arsenic	20.3			P	60,00
7440-39-3	Barium	67.7	j		P	3,00
7440-41-7	Beryllium	0.27	J		P	3.00
7440-43-9	Cadmium	0.63	J		P	1
7440-70-2	Calcium	265000			P	1
7440-47-3	Chromium	30.9			P	1
7440-48-4	Cobalt	2.9	J		P	l
7440-50-8	Copper	11.3	J		P	25.00
7439-89-6	Iron	3610			P	1
7439-92-1	Lead	16.0			P	10
7439-95-4	Magnesium	58400			P	1
7439-96-5	Manganese	947			P	[
7439-97-6	Mercury				NR	,
7440-02-0	Nickel	12.2	1		P	40.00
7440-09-7	Potassium	1210	1	E	P	5000
7782-49-2	Selenium	35.0	U		P	U:5
7440-22-4	Silver	3.2	J		P	10,00
7440-23-5	Sodium	70100	1	E	P	40.00 5000 100 100 100 100 100 100 100 100
7440-28-0	Thallium	25.0	U		P	05
7440-62-2	Vanadium	2.1	J		P	
7440-66-6	Zinc	233		E	P	5
57-12-5	Cyanide				NR	
					1	

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

J1/27/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PS5

		MH1PS5
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG N	o.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-11	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids <u>: 0.0</u>		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	М	}
7429-90-5	Aluminum	200	U	E	P	60,00
7440-36-0	Antimony	29.9	J		P	60,00
7440-38-2	Arsenic	10.1	T 1		P	
7440-39-3	Barium	38.3	J		P	3000
7440-41-7	Beryllium	0.25	J		P	5.00
7440-43-9	Cadmium	7.7	TI		P	]
7440-70-2	Calcium	216000			P	}
7440-47-3	Chromium	1.3	J		P	}
7440-48-4	Cobalt	50.0	U		P	] .
7440-50-8	Copper	15.1	J		P	2500
7439-89-6	Iron	274			P	
7439-92-1	Lead	23.1			P	U
7439-95-4	Magnesium	54400			P	}
7439-96-5	Manganese	267			P	j
7439-97-6	Mercury				NR	Ì.
7440-02-0	Nickel	6.1	J		P	40,00
7440-09-7	Potassium	5770		E	P	5
7782-49-2	Selenium	35.0	Ū		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	80100		E	P	ブ
7440-28-0	Thallium	25.0	U	·	P	
7440-62-2	Vanadium	0.50	J		P	
7440-66-6	Zinc	2450		E	P	ブ
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

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### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

	MH1PS6
Lab Name <u>CHEMTECH CONSULTING GROUP</u> Contract: EPW06047	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u> NRAS No.: SDG No.	o.: MH1PR5
Matrix: (soil/water) WATER Lab Sample ID: X4829-12	
Level: (low/med) LOW Date Received: 10/06/2006	
% Solids: 0.0	
Concentration Units (ug/L or mg/kg dry weight): UG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	200	U	E	P	UT
7440-36-0	Antimony	25.6	J		P	60,00
7440-38-2	Arsenic	9.1	J		P	1000
7440-39-3	Barium	34.5	J		P	2000
7440-41-7	Beryllium	0.26	J		P	500
7440-43-9	Cadmium	8.0			P	]
7440-70-2	Calcium	185000			P	]
7440-47-3	Chromium	3.0	3		P	1
7440-48-4	Cobalt	50.0	U		P	]
7440-50-8	Соррег	12.2	J		P	25.00
7439-89-6	Iron	206			P	]
7439-92-1	Lead	22.1			P	] //
7439-95-4	Magnesium	46500			P	]
7439-96-5	Manganese	112			P	]
7439-97-6	Mercury				NR	] .
7440-02-0	Nickel	6.9	J		P	40.00
7440-09-7	Potassium	5990		E	P	5
7782-49-2	Selenium	35.0	Ū		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	68800		Ē	P	7
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.77	j		P	
7440-66-6	Zinc	2020		E	P	5
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/07/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PS7

		1 14441.11 57
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: CHEM Case No.: 35810	NRAS No.: SDG N	o.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-13	· <del></del>
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>
% Solids: 0.0		
Concentration Units (ug/L. or mg/kg dry weight): 11	IG/I	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	200	U	E	P	し ア .
7440-36-0	Antimony	13.6	J		Р	60.00
7440-38-2	Arsenic	10.0	Ū		Р	
7440-39-3	Barium	39.9	J		P	2000
7440-41-7	Beryllium	0.29	J		P	5,00
7440-43-9	Cadmium	3.1	J		P	}
7440-70-2	Calcium	125000	T		P	}
7440-47-3	Chromium	11.8			P	]
7440-48-4	Cobalt	50.0	U		P	)
7440-50-8	Copper	10.0	J		P	ان جدا
7439-89-6	Iron	202			P	]
7439-92-1	Lead	7.3	J		P	10:0U
7439-95-4	Magnesium	32200			P	
7439-96-5	Manganese	69.9			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	24.5	J		P	40,0.1
7440-09-7	Potassium	3160	J	E	P	2000
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	46000		E	P	5
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.83	J		P	
7440-66-6	Zinc	1350		Ē	P	5
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/27/66

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

						MH1PS8	
Lab Name (	СНЕМТЕСН СС	ONSULTING GR	COUP Contract: EP	W06047	7	L	
Lab Code: _	СНЕМ	Case No.: 3581	0 NRAS No.:		SDG No	o.: MH1PR	.5
Matrix: (soi	l/water) WATE	R	Lab San	ple ID <u>:</u>	X4829-14		
Level: (low/	/med)_LOW		Date Re	ceived <u>: i</u>	10/06/2006		
% Solids <u>: 0</u>	.0	•					
Concentration	on Units ( <b>ug/L</b> o	r mg/kg dry wei	ght): UG/L				
	CAS No.	Analyte	Concentration	С	Q	М	
	7429-90-5	Aluminum	27.5	J	E	P	J
Ī	7440-36-0	Antimony	11.9	J	<del></del>	P	50,0U
Ī	7440-38-2	Arsenic	11.8			P	
Ī	7440-39-3	Barium	53.3	J		P	2000
	7440-41-7	Beryllium	0.30	J		P	5.61
	7440-43-9	Cadmium	2.3	]		P	

7440-70-2 Calcium 128000 P 7440-47-3 | Chromium 4.7 7440-48-4 Cobalt 50.0 P Ū ようひい P 7440-50-8 Copper 11.5 J P 7439-89-6 Iron 487 P 7439-92-1 Lead 85.0 7439-95-4 Magnesium 31800 P 7439-96-5 | Manganese P 243 7439-97-6 Mercury NR 40,00 7440-02-0 Nickel 4.4 J P P 50300 J 7440-09-7 Potassium 2840 E J 7782-49-2 | Selenium 35.0 Ū P 7440-22-4 | Silver 10.0 Ū P 5 7440-23-5 | Sodium P 55300 E Ū P 7440-28-0 Thallium 25.0 7440-62-2 Vanadium 0.91 P 7440-66-6 Zinc 637 E P

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

57-12-5 Cyanide

J11/27/06

NR

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PS9

				MHIFSY
Lab Name CHEMTECH C	ONSULTING GROUP	Contract: EPW06047		
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No	o.: MH1PR5
Matrix: (soil/water) WATE	ER	Lab Sample ID: X4829-1	5	
Level: (low/med) LOW	<del></del>	Date Received: 10/06/200	)6	
% Solids: 0.0				
Concentration Units (ug/L	or <b>mg/kg</b> dry weight): U	G/L		

CAS No.	Analyte	Concentration	С	Q	М	]
7429-90-5	Aluminum	200	U	E	P	"ט
7440-36-0	Antimony	21.6	J		P	60,
7440-38-2	Arsenic	6.9	1		P	10.0
7440-39-3	Barium	44.0	J		P	120
7440-41-7	Beryllium	0.33	J		P	5.
7440-43-9	Cadmium	15.3			P	1
7440-70-2	Calcium	177000			P	1
7440-47-3	Chromium	2.5	J		P	1
7440-48-4	Cobalt	2.7	1		P	1
7440-50-8	Соррег	17.6	J		P	1 よら
7439-89-6	Iron	427			P	1
7439-92-1	Lead	14.0			P	10
7439-95-4	Magnesium	43300			P	[
7439-96-5	Manganese	433			P	1
7439-97-6	Mercury				NR	}
7440-02-0	Nickel	7.9	J		P	140×
7440-09-7	Potassium	6200		E	P	15
7782-49-2	Selenium	35.0	U		P	1
7440-22-4	Silver	10.0	U		P	] _
7440-23-5	Sodium	113000		Ē	P	7
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.69	J		P	ر ا
7440-66-6	Zinc	2290		E	P	1.
57-12-5	Cyanide				NR	}
					1	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/27/00

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

AH1PTO

		MHIPIU
Lab Name CHEMTECH CONSULTING GROUP (	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u> N	NRAS No.: SDG No	o.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-16	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): UG/	/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	Ū	E	P	17
7440-36-0	Antimony	14.8	J		P	6000
7440-38-2	Arsenic	10.0	U		P	]
7440-39-3	Barium	38.6	J		P	入いい-
7440-41-7	Beryllium	0.46	J		P	ل نارو
7440-43-9	Cadmium	9.3			P	
7440-70-2	Calcium	162000			P	]
7440-47-3	Chromium	15.9			P	]
7440-48-4	Cobalt	5.3	J	·	P	}
7440-50-8	Copper	12.3	J		P	よえさい
7439-89-6	Iron	1950			P	}
7439-92-1	Lead	11.9			P	ارا [
7439-95-4	Magnesium	40900			P	
7439-96-5	Manganese	607			P	
7439-97-6					NR	
7440-02-0	Nickel	12.6	J		P	-
7440-09-7	Potassium	5880		E	P	5
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	117000		E	P	- ブー
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.81	J		P	
7440-66-6	Zinc	2160		E	P	1
57-12-5	Cyanide				NR	
						)

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

A1/27/06

## 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

			MH1PT1
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	İ	
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No	o.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-1	7	· ·
Level: (low/med) LOW	Date Received: 10/06/200	16	
% Solids: 0.0			
Concentration Units (ug/L or mg/kg dry weight): U	G/L		

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	869	T	E	P	ブ
7440-36-0	Antimony	9.0	J		P	60,00 5.00
7440-38-2	Arsenic	12.3			P	U.J
7440-39-3	Barium	699			P	
7440-41-7	Beryllium	0.52	J		P	5.00
7440-43-9	Cadmium	0.99	J		P	}
7440-70-2	Calcium	265000			P	
7440-47-3	Chromium	2.7	J		P	
7440-48-4	Cobalt	2.9	J		P	
7440-50-8	Copper	26.4			P	
7439-89-6	Iron	2520			P	
7439-92-1	Lead	177			P	
7439-95-4	Magnesium	70300			P	
7439-96-5	Manganese	2720			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	5.3	J		P	40:00
7440-09-7	Potassium	20800		É	P	5
7782-49-2	Selenium	35.0	U		P	いて
7440-22-4	Silver	10.0	U		P	7 94 940
7440-23-5	Sodium	150000		E	P	5
7440-28-0	Thallium	25.0	U		P	UT
7440-62-2	Vanadium	7.9	J		P	
7440-66-6	Zinc	248		E	P	「
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:	
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:	
Comments:			

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHIPTO

		141111112
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-2	0
Level: (low/med) LOW	Date Received: 10/06/200	6
% Solids <u>: 0.0</u>		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	U	E	P	60,0J
7440-36-0	Antimony	17.1	J		P	60,00
7440-38-2	Arsenic	13.9			P	] U
7440-39-3	Barium	53.8	J		P	えいこ
7440-41-7	Beryllium	0.34	J		P	5,00
7440-43-9	Cadmium	1.7	J		Р	}
7440-70-2	Calcium	125000			P	]
7440-47-3	Chromium	1.2	J		P	] `
7440-48-4	Cobalt	50.0	U		P	}
7440-50-8	Copper	3.0	J		P	J5.0€
7439-89-6	Iron	396			P	}
7439-92-1	Lead	17.1			P	U
7439-95-4	Magnesium	32200			P	
7439-96-5	Manganese	98.3			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	2.9	J		P	4000
7440-09-7	Potassium	3460	J	Ē	P	5000 T
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	58000		E	Р	ゴ
7440-28-0	Thallium	25.0	U		P	1
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	421		Е	P	<b>ブ</b>
57-12-5	Cyanide				NR	

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:	•	

J1/27/06

### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

		ì	MHIP13
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	į.	
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No	.: MH1PR5
Matrix: (soil/water) WATER	Lab Sample ID: X4829-21	<del></del>	
Level: (low/med) LOW	Date Received: 10/06/2006	<u>.                                    </u>	<del></del>
% Solids: 0.0			
Concentration Units (ug/L or mg/kg dry weight): U	IG/L		

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	200	U	Ë	P	して
7440-36-0	Antimony	15.8	J		P	6000
7440-38-2	Arsenic	6.7	J		P	10.00
7440-39-3	Barium	22.9	J		P	2004
7440-41-7	Beryllium	0.39	J		P	5.00
7440-43-9	Cadmium	16.5			P	
7440-70-2	Calcium	165000			P	
7440-47-3	Chromium	2.9	J		P	
7440-48-4	Cobalt	1.3	J		P	,
7440-50-8	Copper	12.5	J		P	25,00
7439-89-6	Iron	100			P	U
7439-92-1	Lead	10.0	U		P	
7439-95-4	Magnesium	33000			P	
7439-96-5	Manganese	1490			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	5.5	J		P	46100
7440-09-7	Potassium	4290	J	E	P	5000 J
7782-49-2	Selenium	35.0	U		P	
7440-22-4	Silver	10.0	U		P	_
7440-23-5	Sodium	72700		E	P	ナ
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	0.52	J	<del></del>	P	
7440-66-6	Zinc	4480		E	P	ゴ
57-12-5	Cyanide				NR	

<u> </u>		
Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		
· · · · · · · · · · · · · · · · · · ·		

11/27/06 ILM05.3

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

INORUANIC ANALISIS DATA SILLET							МН1РТ4	
Lab Name_	СНЕМТЕСН СО	ONSULTING GR	OUP Contract: EP	'W0604'	7			
Lab Code:	SDG No	SDG No.: MH1PR5						
Matrix: (soi	il/water)_WATE	ER	Lab San	nple ID <u>:</u>	X4829-22		<del></del>	
Level: (low	<del></del>	Date Re	ceived <u>:</u>	10/06/2006				
% Solids: 0.0								
Concentrati	on Units (ug/L o	or mg/kg dry weig	ght): UG/L					
	CAS No.	Analyte	Concentration	C	Q	M	]	
	7429-90-5		200	ΤŪ	F.	I P		
	7440-36-0		13.4	J		P	60.00	
	7440-38-2		8.3	+ -	<del></del>	P	10.00	
1	7440-39-3		49.9	1 7		P	7000	
		Beryllium	0.41	J		P	2,01	
		Cadmium	1.6	1	<del></del>	P	1	
	7440-70-2		126000	1	<del></del>	P	1	
	7440-47-3		18.1	1		P	1	
	7440-48-4		50.0	U		P	1	
ł	7440-50-8	Copper	12.4	J		P	25,00	
İ	7439-89-6		363			P	1	
ľ	7439-92-1	Lead	34.0		<del></del>	P	1	
	7439-95-4		30400			P	1	
j	7439-96-5		198	11		P	1	
Ī	7439-97-6	Mercury				NR	]	
Ţ	7440-02-0	Nickel	13.2	J		P	40:00	
Ţ	7440-09-7	Potassium	3010	J	E	P	500UT	
Ī	7782-49-2	Selenium	35.0	U		P	_	
Ī	7440-22-4	Silver	10.0	U		P		
{	7440-23-5	Sodium	58600		E	P	5	
[	7440-28-0	Thallium	25.0	U		P		
[	7440-62-2	Vanadium	0.65	J		P	,	
Ĺ	7440-66-6	Zinc	499		E	P	5	
}	57-12-5	Cyanide				NR		
Į								
Color Before	: COLORLESS	Clarit	y Before: <u>CLEAR</u>	<del></del>	Texture:_			
Color After:	COLORLESS	Clarit	y After: <u>CLEAR</u>		Artifacts:			

Comments:

ILM05.3

FORM IA-IN



# REGION VIII DATA VALIDATION REPORT INORGANIC

Case No. / TDD No.	Site N	ame	Operable Unit
35810 / 0611-06	Lower Silver Cr	eek	
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ChemTech Consulting Group	EPW06047	MH1PR2	

Review Assigned Date	November 16, 2006	Data Validator	Lisa Tyson
Review Completion Date		Report Reviewer	Amy Ballow

Sample ID	Matrix	Analysis
MH1PR2	Soil	CLP - Total Metals
MH1PR3		
MHIPR4		
МН1РТ5	Water	·
мн1РТ6		·
МН1РТ7		
MH1W55		CLP - Dissolved Metals
MH1W56		
MH1W57		

## DATA QUALITY STATEMENT

()	Data are ACCEPTABLE according to	EPA Functional guideline	es with no qualifiers (flags) added
	by the reviewer.	•	
()	Data are UNACCEPTABLE according	to EPA Functional Guid	elines.
(X)	Data are acceptable with QUALIFICA	TIONS noted in review.	
Telepho	one/Communication Logs Enclosed?	Yes	NoX
	oject Officer Attention Required? Yes	No <u>X</u>	_ If yes, list the items that require
attentio	n:		

#### **INORGANIC DATA VALIDATION REPORT**

#### **REVIEW NARRATIVE SUMMARY**

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in <u>each</u> of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 35810, SDG No. MH1PR2, consisted of three soil samples and three water samples for CLP total metals, and three water samples for CLP dissolved metals by ICP-AES (ILM05.3). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH1PR2, MH1PR3, MH1PR4	Beryllium Sodium	U	Laboratory blank contamination	7
MH1PR4	Potassium Vanadium			
MH1PT5, MH1PT6, MH1PT7, MH1W55, MH1W57	Aluminum Copper			
MH1PT5, MH1PT6, MH1PT7, MH1W55, MH1W56, MH1W57	Antimony Barium Beryllium Potassium			
MH1PT6, MH1W56, MH1W57	Arsenic			
MH1PT5, MH1PT6, MH1PT7, MH1W57	Lead			
MH1W55	Iron			
MH1W56	Silver			
МН1РТ7	Thallium			
MH1PR3	Selenium	ບນ	Interference check exceeded criteria, negative interference	8
MH1PR2, MH1PR3, MH1PR4	Beryllium* Sodium*	J+	Interference check exceeded criteria, positive interference	
MH1PR3	Silver		positive interiorence	

# UOS URS Operating Services, Inc.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH1PR4	Thallium	1	Matrix spike recovery greater than 125%, but post digestion recovery within criteria	9
All samples	Potassium Zinc	J/UJ	Serial dilution %D greater than 10% and original sample value at least 50*IDL	14
MH1PT5, MH1PT6, MH1PT7, MH1W55, MH1W56, MH1W57	Barium			
MH1PR2, MH1PR3, MH1PR4	Antimony Arsenic Cadmium Calcium Cobalt Iron Lead Magnesium Manganese Nickel Silver Sodium			

<sup>\*</sup> The results for beryllium and sodium in samples MH1PR2, MH1PR3, and MH1PR4 were not assigned bias because the results were qualified as non-detected for blank contamination.

1.

2.

3.

**DELIVERABLES** 

All deliverab	les were present as specified in the Statement of Work.
Yes_X_	No
Comments:	None.
HOLDING T	ΓIMES AND PRESERVATION CRITERIA
All technical	holding times and preservation criteria were met.
Yes_X_	No
Comments:	The samples were analyzed within holding times and were received within the recommended temperature range of $4 \pm 2$ °C. Chain-of-custody (COC), summary forms, and raw data were evaluated.
	The sampler used the same ID for both total and dissolved metals. In accordance with previous direction from EPA Region 8, the sample IDs listed on the COC were assigned to the total metals samples and the SMO Coordinator assigned new IDs for the dissolved metals samples (i.e., the original sample number on the COC was MH1PT5 and the new dissolved sample ID was assigned as MH1W55).
INSTRUME	NT CALIBRATIONS: STANDARDS AND BLANKS
Initial instrum	nent calibrations were performed according to SOW requirements.
Yes_X_	No
Comments:	None.
The instrumen	its were calibrated daily and each time an analysis run was performed.
Yes_X_	No
Comments:	None.
The instrumen	its were calibrated using one blank and the appropriate number of standards.
Yes_X_	No
Comments:	None.

URS Operating Services, Inc.

Comments:

None.

4.	<b>FORM 1 - S.</b>	AMPLE ANALYSIS RESULTS
	Sample analy	ses were entered correctly on Form Is.
	Yes_X_	No
	Comments:	The result for zinc in sample MH1PR2 was reported from a 2x dilution and the result for iron in sample MH1PR4 was reported from a 5x dilution. The laboratory flagged these results with a "D" qualifier.
5.	FORM 2A -	INITIAL AND CONTINUING CALIBRATION VERIFICATION
	The initial and SOW requires	d continuing calibration verification standards (ICV and CCV, respectively) met ments.
	Yes X	No
	Comments:	None.
		on verification results were within 90-110% recovery for metals, 85-115% for 80-120% for mercury.
	Yes_X_	No
	Comments:	None.
	The continuin	g calibration standards were run at 10% frequency or every two hours.
	Yes_X_	No
	Comments:	None.
6.	FORM 2B - 0	CRQL CHECK STANDARD
	run and every	Standards (CRI) were analyzed at the beginning and end of each sample analysis 20 analytical samples, immediately preceding the interferences check sample not before ICV analysis.
	Yes_X_	No

7.

The CRI recoveries were within 70-130% (50-150% for Sb, Pb, and Tl) for required elements.						
Yes_X_	No					
Comments:	None.					
FORM 3 - B	LANKS					
The initial and requirements.	d continuing calibration blanks (ICB and CCB, respectively) met SOW					
Yes_X_	No					
Comments:	None.					
The continuin	g calibration blanks were run at 10% frequency.					
Yes_X_	No					
Comments:	Continuing calibration blanks were run every 10 samples.					
	preparation blank was run at the frequency of one per twenty samples, or per sample (whichever is more frequent), and for each matrix analyzed.					
Yes_X_	No					
Comments:	None.					
All analyzed b	lanks were free of contamination.					
Yes	No_X_					
Comments:	The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:					

### **Blank Contaminants**

Blank ID	Contaminant	Concentration Found in Blank	Associated Samples	Concentration Found in Sample	Qualifier/ Adjustment
PB	Beryllium	0.038 mg/Kg	MH1PR2 MH1PR3 MH1PR4	<crql< td=""><td>0.80 U 0.69 U 0.71 U</td></crql<>	0.80 U 0.69 U 0.71 U
PB	Sodium	2.094 mg/Kg	MH1PR2 MH1PR3 MH1PR4	,	805 U 695 U 710 U

## UOS

URS Operating Services, Inc.

Blank ID	Contaminant	Concentration Found in Blank	Associated Samples	Concentration Found in Sample	Qualifier/ Adjustment
РВ	Potassium	12.658 mg/Kg	MH1PR4	<crql< td=""><td>710 U</td></crql<>	710 U
PB	Vanadium	0.107 mg/Kg	MH1PR4		7.1 U
CCB9	Aluminum	20.095 ug/L	MHIPT5 MHIPT6 MHIPT7 MHIW55 MHIW57		200 U
CCB10	Antimony	10.715 ug/L	MHIPTS MHIPT6 MHIPT7 MHIW55 MHIW56 MHIW57		60.0 U
PB	Arsenic	9.015 ug/L	MH1PT6 MH1W56 MH1W57	<crql 31.5 ug/L <crql< td=""><td>10.0 U U 10.0 U</td></crql<></crql 	10.0 U U 10.0 U
CCB10	Barium	0.87 ug/L	МНІРТ5 МНІРТ6 МНІРТ7 МНІW55 МНІW56 МНІW57	<crql< td=""><td>200 U</td></crql<>	200 U
CCB10	Beryllium	0.12 ug/L	MH1PT5 MH1PT6 MH1PT7 MH1W55 MH1W56 MH1W57		5.0 U
ССВ9	Copper	1.965 ug/L	MHIPTS MHIPT6 MHIPT7 MHIW55 MHIW57		25.0 U
РВ	Iron	30.685 ug/L	MH1W55		100 U
PB	Lead	6.835 ug/L	MHIPTS MHIPT6 MHIPT7 MHIW57	21.5 ug/L <crql 11.3 ug/L <crql< td=""><td>บ 10.0 บ บ 10.0 บ</td></crql<></crql 	บ 10.0 บ บ 10.0 บ
РВ	Potassium	29.545 ug/L	MHIPT5 MHIPT6 MHIPT7 MHIW55 MHIW56 MHIW57	<crql< td=""><td>5000 U</td></crql<>	5000 U
ICB	Silver	2.015 ug/L	MH1W56		10.0 U
CCB10	Thallium	6.755 ug/L	МН1РТ7		25.0 U



#### FORM 4 - ICP INTERFERENCE CHECK SAMPLE 8.

	Ference check sample (ICS) was run at the beginning and end of each sample and every 20 analytical samples, but <u>not</u> prior to the ICV.
Yes_X_	No
Comments:	None.
	ery of the analytes in the ICS solutions were within the range of 80-120% or the $\pm 2x$ the CRQL.
Yes_X_	No
Comments:	None.
Sample results	for aluminum, calcium, iron, and magnesium were less than the ICSA values.
Yes	No_X_
Comments:	The following sample results were qualified because the results for iron were greater than the ICSA values and the absolute values of the associated elements

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Selenium	-5.2	4.7	MH1PR3	נט
Beryllium	0.69	0.063	MH1PR2, MH1PR3, MH1PR4	J+
Sodium	890	8.8		
Silver	4.9	1.1	MH1PR3	

were greater than the MDL in the ICSA analysis:

The results for beryllium and sodium in samples MH1PR2, MH1PR3, and MH1PR4 were not assigned bias because the results were qualified as non-detected for blank contamination.

#### 9. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a simila	r matrix, or
one per sample delivery group (whichever is more frequent).	

Yes_X_	No	NA
Comments:	None	



	The perce	nt recoveries (%	Rs) were calculat	ed correctly.	
	Yes_X_	No	NA		
	Comment	s: None.			
			hin the range of 7 s the spike concer	5-125% (an exception is granted stration).	d where the sample
	Yes	No_X_			
	Comments		_	e spike recovery outside control ected, and data qualifiers:	limits, post digestion
	Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Thal	lium	151%	87%	MH1PR4	J
10.	A post-digerii Pre-digesti	selenium v  B - POST DIGE  est spike was pe on/pre-distillation	ST SPIKE REC	fication was necessary because in the total water samples.  OVERY  elements that did not meet the falls outside of control limits at exception: Ag, Hg).	specified criteria (i.e.,
	Yes X	No	NA		
	Comments	: See previo	ous section for pos	t-digestion spike recoveries.	
11.	FORM 6 -	DUPLICATE	SAMPLE ANAI	YSIS	
				th every twenty or fewer sample is more frequent).	es of a similar matrix,
	Yes_X_	No	NA		
	Comments:	None.			

12.

13.

The RPDs we	re calculated	correctly.
Yes_X_	No	NA
Comments:	None.	
		greater than five times the CRQL, RPDs were within ±20% (limits of lents/tailings samples).
Yes_X_	No	NA
Comments:	None.	
<del>-</del>		less than five times the CRQL, duplicate analysis results were within RQL (two times CRQL for soils).
Yes_X_	No	NA
Comments:	analysis. I	atory indicated that thallium was outside duplicate criteria in the soil However, the duplicate analysis results were within the control window RQL and no qualification was necessary.
ICP-MS		
Comments:	ICP-MS ar	nalyses were not performed on these samples.
FORM 7 - LA	BORATOR	RY CONTROL SAMPLE
•		ple (LCS) was prepared and analyzed with every twenty or fewer, or one per sample delivery group (whichever is more frequent).
Yes_X_	No	
Comments:	None.	
All results were	e within con	trol limits.
Yes_X_	No	
Comments:	Results we	re within laboratory control limits.

#### 14. FORM 8 - ICP-AES QC

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes X No No None.

The serial dilution was without interference problems as defined by the SOW.

Yes\_\_\_ No\_X

Comments: The following serial dilution %Ds were greater than 10% and the original sample

result was at least 50\* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Potassium	14% / 11% / 15%	All samples	J/UJ
Zinc	31% / 12% / 13%		
Barium	11% / 10.3%	MH1PT5, MH1PT6, MH1PT7, MH1W55, MH1W56, MH1W57	
Antimony	11%	MH1PR2, MH1PR3, MH1PR4	
Arsenic	12%		
Cadmium	15%		
Calcium	11%		
Cobalt	12%		
Iron	429%		
Lead	15%		
Magnesium	13%		
Manganese	14%		
Nickel	16%		
Silver	14%		
Sodium	11%		



### 15. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

	MDLs were p	provided for all elements on the target analyte list.
	Yes_X_	No
	Comments:	None.
	Reported MD	Ls met SOW requirements.
	Yes X	No
	Comments:	None.
16.	FORM 10 - 1	INTERELEMENT CORRECTION FACTORS FOR ICP
	Interelement	corrections for ICP were reported.
	Yes_X_	No
	Comments:	None.
17.	FORM 11 - I	CP LINEAR RANGES
	ICP linear ran	ges were reported.
	Yes_X_	No
	Comments:	None.
18.	FORM 12 - F	PREPARATION LOG
	Information of	n the preparation of samples for analysis was reported on Form 12.
	Yes_X_	No
	Comments:	None.
19.	FORM 13 - A	NALYSIS RUN LOG
	A Form 13 wi	th the required information was filled out for each analysis run in the data package.
	Yes_X_	No
	Comments:	None.

Data Validation Report

20. Additional Comments or Problems/Resolutions Not Addressed	l Above	Addressed	t Add	Not	ions	esolut	lems/I	Prob	or	Comments	itional	Addi	20.
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Yes\_\_\_ No\_X\_

Comments: None.

#### INORGANIC DATA QUALITY ASSURANCE REVIEW

#### Region VIII

#### **DATA QUALIFIER DEFINITIONS**

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

#### GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

- R Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
- J The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
- J+ The associated numerical value is an estimated quantity but the result may be biased high.
- J- The associated numerical value is an estimated quantity but the result may be biased low.
- U J The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
- N J Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
- U The material was analyzed for, but was not detected above the level of the associated value.

  The associated value is either the sample quantitation limit or the sample detection limit.



URS Operating Services, Inc.

#### **ACRONYMS**

AA Atomic Absorption

Ag Silver

CCB Continuing Calibration Blank

CCV Continuing Calibration Verification

CFR Code of Federal Regulations
CLP Contract Laboratory Program
CRA CRQL standard required for AA

CRQL Contract Required Quantitation Limit

CRI CRQL standard required for ICP

CV Cold Vapor

EPA U.S. Environmental Protection Agency
GFAA Graphite Furnace Atomic Absorption

Hg Mercury

ICB Initial Calibration Blank
ICP Inductively Coupled Plasma
ICS Interference Check Sample

ICSA Interference Check Sample (Solution A)
ICSAB Interference Check Sample (Solution AB)

ICV Initial Calibration Verification LCS Laboratory Control Sample

LRA Linear Range Verification Analysis

MDL Method Detection Limit
PDS Post Digestion Spike

OC Quality Control

RPD Relative Percent Difference RPM Regional Project Manager

RSD Percent Relative Standard Deviation

SA Spike Added

SAS Special Analytical Services
SDG Sample Delivery Group
SOW Statement of Work

SR Sample Result

SSR Spiked Sample Result

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHI1PR2

Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	<u> </u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG	No.: MH1PR2
Matrix: (soil/water) SOIL	Lab Sample ID: X4830-01	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids <u>: 62.1</u>		
Concentration Units (ug/L.or mg/kg dry weight): N	AG/KG	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	6450			P	
7440-36-0	Antimony	103		E	P	5
7440-38-2	Arsenic	207		E	P	5
7440-39-3	Barium	191			P	1
7440-41-7	Beryllium	0.11	J		P	0.5005
7440-43-9	Cadmium	49.5		E	P	5
7440-70-2	Calcium	12200		E	P	5
7440-47-3	Chromium	19.3			P	_
7440-48-4	Cobalt	18.0		E	P	7
7440-50-8	Copper	244			P	1
7439-89-6	Iron	67300		E	P	5
7439-92-1	Lead	4060		E	P	丁.
7439-95-4	Magnesium	4590		E	P	ナナト
7439-96-5	Manganese	1070		Е	P	5
7439-97-6	Mercury				NR	
7440-02-0	Nickel	13.0		E	P	5
7440-09-7	Potassium	1220		E	P	5
7782-49-2	Selenium	14.8			P	
7440-22-4	Silver	24.7		Ë	P	5 805UT
7440-23-5	Sodium	323	J	E	P	80505
7440-28-0	Thallium	4.0	Ü	N*	P	
7440-62-2	Vanadium	44.7			P	
7440-66-6	Zinc	8940		ED	P	ゴ
57-12-5	Cyanide			_	NR	

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

M 11/27/06

ILM05.3

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHIPR3

		1.110.111.10
ab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	<u></u>
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SD	G No.: MH1PR2
Matrix: (soil/water) SOIL	Lab Sample ID: X4830-02	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 71.9		
Concentration Units (no/L or mo/kg dry weight). N	AG/KG	

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum	4770		<del></del>	P	
7440-36-0	Antimony	63.5		E	P	ナ
7440-38-2	Arsenic	55.7		E	P	-5
7440-39-3	Barium	106			P	0.6905
7440-41-7	Beryllium	0.070	J		P	0.6900
7440-43-9	Cadmium	14.8		E	P	アナ
7440-70-2	Calcium	8400		Е	P	ブ
7440-47-3	Chromium	9.0			P	_
7440-48-4	Cobalt	8.8		E	P	<u> </u>
7440-50-8	Copper	111			P	
7439-89-6	Iron	18300		E	P	ナアナナ
7439-92-1	Lead	1300		E	P	<b>ア</b>
7439-95-4	Magnesium	3040		E	P	エ
7439-96-5	Manganese	1250		E	P	<b>う</b>
7439-97-6	Mercury				NR	
7440-02-0	Nickel	5.6		E	P	丁_
7440-09-7	Potassium	891		E	P	J .
7782-49-2	Selenium	4.9	U		P	ナナンナナン
7440-22-4	Silver	5.5		E	P	ナナ _
7440-23-5	Sodium	292	3	E	P	69367
7440-28-0	Thallium	3.5	U	N*	P	
7440-62-2	Vanadium	28.5			P	_
7440-66-6	Zinc	2900		E	P	丁
57-12-5	Cyanide				NR	

Comments:		
Color After: YELLOW	Clarity After:	Artifacts:
Color Before: BROWN	Clarity Before:	Texture: MEDIUM

11/27/06

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEI1PR4

Lab Name <u>CHEMTECH CC</u>	ONSULTING GROUP	Contract: EPW06047	L			
Lab Code: <u>CHEM</u>	Case No.: 35810	NRAS No.:	SDG No.: MH1PR2			
Matrix: (soil/water) SOIL		Lab Sample 1D: X4830-0	3			
Level: (low/med) LOW	<del></del>	Date Received: 10/06/200	6			
% Solids: 70.4						
Concentration Units (ug/L or mg/kg dry weight): MG/KG						

CAS No.	Analyte	Concentration	С	Q	M	}
7429-90-5	Aluminum	655	T		P	
7440-36-0	Antimony	233	1	E	P	丁
7440-38-2	Arsenic	636		E	P	15
7440-39-3	Barium	95.6			P	ر ا
7440-41-7	Beryllium	0.12	J		P	J-0,71UT
7440-43-9	Cadmium	46.9		E	P	ナナ
7440-70-2	Calcium	23600		E	P	1 ケ
7440-47-3	Chromium	6.0			P	]
7440-48-4	Cobalt	16.5		E	P	
7440-50-8	Copper	303			P	
7439-89-6	Iron	186000		ED	P	5
7439-92-1	Lead	11700		E	P	ー
7439-95-4	Magnesium	8150		E	P	アアア
7439-96-5	Manganese	1360		E	P	ブ
7439-97-6	Mercury				NR	
7440-02-0	Nickel	17.9		E	P	T -
7440-09-7	Potassium	235	J	Ē	P	71007
7782-49-2	Selenium	63.3			P	_
7440-22-4	Silver	44.0		Ē	P	71007
7440-23-5	Sodium	235	J	E	P	71000
7440-28-0	Thallium	1.9	J	N*	P	J
7440-62-2	Vanadium	4.5	J		P	7.10
7440-66-6	Zinc	6020	<u> </u>	E	P	5
57-12-5	Cyanide				NR	
			1			

Color Before: BROWN	Clarity Before:	Texture: MEDIUM
Color After: YELLOW	Clarity After:	Artifacts:
Comments:		

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ILM05.3

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PT5

		•	MIIII
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047		L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PR2
Matrix: (soil/water) WATER	Lab Sample ID: X4830-0	)6	<del></del>
.evel: (low/med) LOW	Date Received: 10/06/20	06	
% Solids: 0.0			
Concentration Units (ug/L or mg/kg dry weight): U	IG/L		
<del></del>			<del></del>

CAS No.	Analyte	Concentration	С	Q	М	] .
7429-90-5	Aluminum	54.7	7 7 1		P	2000 60.00 2000 5.00
7440-36-0	Antimony	7.0	1		P	60.00
7440-38-2	Arsenic	10.0	U		P	Ī
7440-39-3	Barium	28.9	J	E	P	200 UJ
7440-41-7	Beryllium	0.19	J		P	5.00
7440-43-9	Cadmium	1.1	J		P	1.
7440-70-2	Calcium	70800			P	1
7440-47-3	Chromium	8.0	J		P	1
7440-48-4	Cobalt	50.0	U		P	1 .
7440-50-8	Copper	6.8	J		P	25.00
7439-89-6	Iron	204			P	1
7439-92-1	Lead	21.5			P	10
7439-95-4	Magnesium	16900			P	1
7439-96-5	Manganese	105			P	1
7439-97-6	Mercury				NR	1
7440-02-0	Nickel	2.5	J		P	1
7440-09-7	Potassium	1460	J	Ē	P	50000
7782-49-2	Selenium	35.0	U	N	P	1
7440-22-4	Silver	10.0	U		P	Ţ
7440-23-5	Sodium	31600			P	1
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	254	1	E	P	1
57-12-5	Cyanide				NR	
			<del>                                     </del>			

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

T 11/27/08

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

МИ1РТ6

		MHIFIG
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.: SDG No	o.: MH1PR2
Matrix: (soil/water) WATER	Lab Sample ID: X4830-07	
Level: (low/med) LOW	Date Received: 10/06/2006	<del></del>
% Solids: 0.0		·
Concentration Units (ug/L or mg/kg day weight): Il	IC/I	

CAS No.	Analyte	Concentration	С	Q	M	}
7429-90-5	Aluminum	19.6	J		P	2000
7440-36-0	Antimony	14.4	J		P	60.00
7440-38-2	Arsenic	5.7	J		P	10.00
7440-39-3	Barium	56.2	J	E	P	1 2000
7440-41-7	Beryllium	0.14	J		P	500
7440-43-9	Cadmium	0.53	J		P	1
7440-70-2	Calcium	142000			P	]
7440-47-3	Chromium	10.5			P	1
7440-48-4	Cobalt	50.0	U		P	1
7440-50-8	Соррег	14.0	J		P	125.00
7439-89-6	Iron	401			P	25.00
7439-92-1	Lead	3.3	J		P	10.00
7439-95-4	Magnesium	33700		i	P	1
7439-96-5	Manganese	143			P	1
7439-97-6	Mercury				NR	
7440-02-0	Nickel	6.1	J		, P	1
7440-09-7	Potassium	3140	J	Ē	P	30000
7782-49-2	Selenium	35.0	U	N	P	
7440-22-4	Silver	10.0	U		P	1
7440-23-5	Sodium	61400			P	}
7440-28-0	Thallium	25,0	U		P	
7440-62-2	Vanadium	50.0	U		Р	
7440-66-6	Zinc	389		E	P	1
57-12-5	Cyanide				NR	
			1		1	1

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

11/27/06

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1PT7

		MLH1P1/
Lab Name CHEMTECH CONSULTING GROUP	Contract: EPW06047	L
Lab Code: CHEM Case No.: 35810	NRAS No.: SDG	No.: MH1PR2
Matrix: (soil/water) WATER	Lab Sample ID: X4830-08	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0	·	
Concentration Units (ug/L or mg/kg dry weight): U	JG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	31.0	J		P	1.000
7440-36-0	Antimony	14.6	J	·	P	200UT
7440-38-2	Arsenic	10.0	U		P	]
7440-39-3	Barium	65.3	J	Е	P	1200UT
7440-41-7	Beryllium	0.11	J		P	ا بنا و ا
7440-43-9	Cadmium	1.2	J		P	}
7440-70-2	Calcium	152000			P	}
7440-47-3	Chromium	13.4	1		P	
7440-48-4	Cobalt	50.0	U		P	}
7440-50-8	Copper	9.6	J		Р	<b>減さい</b>
7439-89-6	Iron	220			P	]
7439-92-1	Lead	11.3			Р	] (
7439-95-4	Magnesium	37800			P	]
7439-96-5	Manganese	120			Р	}
7439-97-6	Mercury				NR	1
7440-02-0	Nickel	6.1	J		P	
7440-09-7	Potassium	3550	J	E	P	2000
7782-49-2	Selenium	35.0	U	N	P	
7440-22-4	Silver	10.0	U		Р	
7440-23-5	Sodium	62800			P	
7440-28-0	Thallium	6.9	J		P	2>00
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	476		E	P	T
57-12-5	Cyanide				NR	
						•

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

A 11/37/06

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO:

MB1W55

				141111 44 55
Lab Name CHEMTECH CO	NSULTING GROUP	Contract: EPW06047	,	
Lab Code: <u>CHEM</u>	Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PR2
Matrix: (soil/water) WATE	₹	Lab Sample ID: X4830-1	1	
Level: (low/med) LOW		Date Received: 10/06/200	)6	
% Solids: 0.0				
Concentration Units (ug/L or	mg/kg dry weight): U	G/L		

CAS No.	Analyte	Concentration	С	Q	М	}
7429-90-5	Aluminum	27.5	. J		P	2000
7440-36-0	Antimony	7.1	J		P	1 ec 00
7440-38-2	Arsenic	10.0	U		P	2007
7440-39-3	Barium	49.3	J	E	P	スペン
7440-41-7	Beryllium	0.12	J		P	3,00
7440-43-9	Cadmium	5.0	U		P	1
7440-70-2	Calcium	125000			P	
7440-47-3	Chromium	5.6	J		P	1
7440-48-4	Cobalt	50.0	U		P	}
7440-50-8	Copper	8.7	J		P	2300
7439-89-6	Iron	54.0	J		P	1000
7439-92-1	Lead	10.0	U		P	}
7439-95-4	Magnesium	29700	1	<del></del>	P	]
7439-96-5		144	1		P	1
7439-97-6	Mercury				NR	
7440-02-0	Nickel	4.6	1	<del></del>	P	
7440-09-7	Potassium	2750	J	E	P	50A 1
7782-49-2	Selenium	35.0	U	N	P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	54300			P	
7440-28-0	Thallium	25.0	U		P	1
7440-62-2	Vanadium	50.0	U		P	
7440-66-6	Zinc	379		Ē	P	5
57-12-5	Cyanide				NR	I
			1			1
					1	

Color Before: COLORLESS	Clarity Before: <u>CLEAR</u>	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		

J 11/27/06

#### 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH1W56

		MILLIMO
Lab Name <u>CHEMTECH CONSULTING GROUP</u>	Contract: EPW06047	· L
Lab Code: CHEM Case No.: 35810	NRAS No.:	SDG No.: MH1PR2
Matrix: (soil/water) WATER	Lab Sample ID: X4830-12	
Level: (low/med) LOW	Date Received: 10/06/2006	
% Solids: 0.0		
Concentration Units (ug/L or mg/kg dry weight): U	IG/L	

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	1470	1		P	1
7440-36-0	Antimony	40.0	J		P	60.00
7440-38-2	Arsenic	31.5			P	2000
7440-39-3	Barium	89.9	J	Е	P	2000
7440-41-7	Beryllium	0.18	J		P	5,00
7440-43-9	Cadmium	10.8			P	}
7440-70-2	Calcium	152000		<del>_</del> _	P	1
7440-47-3	Chromium	18.3			P	1
7440-48-4	Cobalt	2.6	J		P	]
7440-50-8	Copper	51.8		<del></del>	P	1
7439-89-6	Iron	4180			P	1
7439-92-1	Lead	581			P	
7439-95-4	Magnesium	34900			P	1
7439-96-5	Manganese	992			P	
7439-97-6	Mercury				NR	
7440-02-0	Nickel	10.0	J		P	
7440-09-7	Potassium	3640	J	E	P	SOUCUT
7782-49-2	Selenium	35.0	U	N	P	ì
7440-22-4	Silver	6.0	1		P	10 00
7440-23-5	Sodium	62900			P	
7440-28-0	Thallium	25.0	U		P	
7440-62-2	Vanadium	3.8	J		P	
7440-66-6	Zinc	1770		E	P	J
57-12-5	Cyanide				NR	
		<del> </del>				
					1	

	L		
Color Befo	re: COLORLESS	Clarity Before: CLEAR	Texture:
Color After	r: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:	:		
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## 1A-IN INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

•			MH1W57
Lab Name <u>CHEMTECH CONSULTING GROU</u> F	Contract: EPW06047		
Lab Code: <u>CHEM</u> Case No.: <u>35810</u>	NRAS No.:	SDG No	o.: MH1PR2
Matrix: (soil/water) WATER	Lab Sample ID: X4830-13	3	
Level: (low/med) LOW	Date Received: 10/06/200	6	
% Solids: 0.0			
Concentration Units (ug/L or mg/kg dry weight):	UG/L		

CAS No.	Analyte	Concentration	С	Q	M	_
7429-90-5	Aluminum	31.2	J		P	2000
7440-36-0	Antimony	13.9	J		P	60,00
7440-38-2	Arsenic	6.2	)		P	10.00
7440-39-3	Barium	65.6	J	E	P	1 2000 0 3
7440-41-7	Beryllium	0.095	J		P	] 5,0U
7440-43-9	Cadmium	0.95	J		P	]
7440-70-2	Calcium	154000			P	]
7440-47-3	Chromium	8.6	J		P	}
7440-48-4	Cobalt	50.0	U		P	]
7440-50-8	Copper	6.0	Ĵ		P	25.00
7439-89-6	Iron	157			P	]
7439-92-1	Lead	3.7	1		P	10.00
7439-95-4	Magnesium	38200			P	1
7439-96-5	Manganese	72.6			P	}
7439-97-6	Mercury				NR	7
7440-02-0	Nickel	4.7	J		P	1
7440-09-7	Potassium	3610	J	Е	P	500000
7782-49-2.	Selenium	35.0	U	N	P	1
7440-22-4	Silver	10.0	υ		P	}
7440-23-5	Sodium	64100			P	1
7440-28-0	Thallium	25.0	U		P	1
7440-62-2	Vanadium	0.64	J		P	]
7440-66-6	Zinc	450		Е	P	]5
57-12-5	Cyanide				NR	]
						].
						]

Color Before: COLORLESS	Clarity Before: CLEAR	Texture:
Color After: COLORLESS	Clarity After: CLEAR	Artifacts:
Comments:		